Procurement #: >

CITY OF PROVIDENCE, RHODE ISLAND

Department: Public Property

RFP Title: Asa Messer Playground

Opening Date: 10/11/2022

Addendum #: 1

Issue Date: RI

The purpose of this addendum is Please add the above report, and add a Pre-Bid Walkthrough on Tuesday, October 4, 1030AM

Providence City Hall
25 Dorrance Street
Providence, RI 02903

April 8, 2022

Ms. Rachel T. Simpson
Senior Environmental Scientist
Rhode Island Department of Environmental Management
Office of Land Revitalization and Materials Management
Site Remediation Program
235 Promenade Street
Providence, RI 02908

Re: Soil Sampling Summary
Asa Messer Elementary School
1655 Westminster Street
Providence, RI

Headquarters
115 GLASTONBURY BLVD
GLASTONBURY CT 06033
860.659.1416

10 CABOT ROAD
SUITE 101B
MEDFORD MA 02155
617.776.3350

6 CHESTNUT ST
SUITE 110
AMESBURY MA 01913
978.388.2157

197 LOUDON RD
SUITE 310
CONCORD NH 03301
603.856.7854

200 MAIN ST
PAWTUCKET RI 02860
401.726.4084

Dear Ms. Simpson:

GRA, a division of GM2, (GRA) has prepared this soil sampling summary on behalf of the City of Providence Department of Planning and Development. GRA completed the soil sampling program pursuant to the future implementation of the Rhode Island Department of Environmental Management (RIDEM) Dig & Haul Policy to address a soil pile at the above referenced site.

Background

The site is the Asa Messer Elementary School in Providence, Rhode Island, which is Pre-K through 4th grade and has an enrollment of approximately 550 students. A soil pile of unknown origin is present on the site located in the rear of the property between the parking lot and the adjacent ball field. A previous investigation completed by GRA identified three polyaromatic hydrocarbons, benzo(a)pyrene, benzo(b)fluoranthene, and chrysene, present in the soil pile at concentrations above the RIDEM *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations)* Residential Direct Exposure Criteria (R-DEC).

The soil pile and surrounding area will be the location of a future playground to be constructed this summer. The removal of the soil pile will be completed as part of the future construction activities. A proposed soil sampling, dated February 16, 2022, was prepared by GRA and submitted to RIDEM. The additional sampling detailed in that plan was completed on February 21, 2022. Results of this investigation is summarized in the following sections.

Investigation Scope of Work

GRA coordinated with the City of Providence's architect for the playground project, StudioJAED, to discuss the playground construction details. Based on the information provided by StudioJAED and the previous investigation results, GRA prepared the previously referenced Soil Sampling Plan. The plan was designed to obtain soil samples from the limits of the future excavation associated with the construction of the playground in the area of the soil pile. In accordance with the RIDEM Dig & Haul Policy, the Soil Sampling Plan included sidewall samples obtained every 25 feet and base

samples from every 625 square feet. A total of 17 soil samples were obtained. The samples were obtained from an elevation of approximately 69 feet, which correlates with one foot below the design base elevation of the future playground.

Soil Sampling Investigation

Soil samples were obtained via Geoprobe at each of the proposed locations on February 21, 2022. Soil samples were taken at depths ranging from 2 to 6 feet below grade. Visual characterization of the soils was performed. Select soil samples were field screened for volatile organic compounds (VOCs) using a photoionization detector and standard jar headspace techniques. Field screening revealed no detectable readings for any of the selected soil samples. Soil sample characterizations and field screening results are listed in **Table 1**. The soil sampling locations are shown on the attached **Figure 1**.

Table 1 – Soil Sample Characterization

Soil Boring ID	Sample Depth (ft)	Soil Strata
GRA-1	2	Light gray coarse sand
GRA-2	4	Light gray coarse sand
GRA-3	4	Light gray coarse sand
GRA-4	4	Light gray coarse sand
GRA-5	4	Dark brown coarse sand
GRA-6	6	Light gray coarse sand
GRA-7	6	Light gray coarse sand
GRA-8	6	Light gray coarse sand
GRA-9	6	Light gray coarse sand
GRA-10	3	Light gray coarse sand
GRA-11	3	Light gray coarse sand
GRA-12	5	Light brown fine sand
GRA-13	4	Light brown fine sand
GRA-14	3	Light brown fine sand
GRA-15	5	Light brown fine sand
GRA-16	4	Light brown fine sand
GRA-17	4	Light brown fine sand

,

Retained soil samples were submitted for laboratory analysis to New England Testing Laboratories under chain of custody protocols and analyzed for polyaromatic hydrocarbons (PAHs) via EPA Method 8270.

Soil Analytical Results

Analytical results for soil samples GRA-7, GRA-8, GRA-9, GRA-10, GRA-11, GRA-12, GRA-13, GRA-14, GRA-15, GRA-16, and GRA-17 indicated no PAH concentrations above R-DEC or I/C DEC standards. Soil sample analytical results for samples GRA-1, GRA-2, GRA-3, GRA-4, GRA-5, and GRA-6 indicated concentrations of PAHs above RIDEM *Remediation Regulations* R-DEC. In addition, analytical results from soil samples GRA-3, GRA-4, and GRA-5 exceeded the RIDEM *Remediation Regulations* Industrial/Commercial Direct Exposure Criteria (I/C-DEC) for benzo(a)pyrene. A summary of the detected PAHs is provided below and analytical results have been summarized in the attached **Table 2**.

- GRA 1: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, indeno(1,2,3-cd)pyrene
- GRA 2: benzo(a)pyrene & chrysene
- GRA 3: benzo(a)anthracene, benzo(a)pyrene*, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene,
- GRA 4: benzo(a)anthracene, benzo(a)pyrene*, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, indeno(1,2,3-cd)pyrene
- GRA 5: benzo(a)anthracene, benzo(a)pyrene*, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, indeno(1,2,3-cd)pyrene
- GRA 6: benzo(a)pyrene & chrysene

  * - indicates exceedance of I/C DEC

Summary

The purpose of the investigation was to determine the soil characteristics at the extent of the future excavation for the construction of the playground. Analytical results for eleven of the soil samples (GRA-7 to GRA-17) exhibited no concentrations exceeding the R-DEC. Three soil sample analytical results, GRA-1, GRA-2, and GRA-6, exhibited concentrations for several PAH compounds above R-DEC and below I/C-DEC. Analytical results for soil samples GRA-3, GRA-4 and GRA-5, exhibited benzo(a)pyrene concentrations above I/C-DEC. Analytical reports and Chain of Custody documentation has been included as **Attachment 1**.

The future playground site plan and construction details have been included as **Attachment 2**. Soil samples GRA-1, GRA-2, GRA-3, and GRA-4, are located along the western border of the playground area. As shown on the attached site plan and details, a concrete retaining wall will be installed along the western border. Therefore, remaining soils will be capped by the retaining wall or 1 foot of clean fill over a geofabric membrane. Soil samples, GRA-5 and GRA-6, are located under the playground surface. The playground surface will consist of a rubber play surface over clean fill, with a minimum combined thickness of the rubber and clean fill of 1 foot. A geofabric will also be installed beneath the entire playground footprint.

Pre-classification Sampling

During the investigation, GRA obtained two soil samples for laboratory analysis for the purpose of preclassifying the soil for disposal. The samples were analyzed for RCRA 8 metals, PCBs, total petroleum hydrocarbons, semi-volatile organic compounds, volatile organic compounds, pH, free liquids and flash point. Analytical results have been included in **Attachment 3**.

Remedial Actions

As previously discussed, remediation via the dig and haul policy will be implemented by the contractor during the construction of the playground. It is estimated that approximately 500 cubic yards of soil will be excavated for off-site disposal. The above soil samples represent the limits of this investigation. The excavation will be capped with the future playground, concrete retaining walls, and asphalt parking. Imported soils will be sampled for compliance with RIDEM R-DEC prior to being used on site.

The final design of the playground is being completed and the City of Providence would like to put this out to bid in late April early May for summer construction. GRA is preparing a Construction Soil Management Plan (CSMP) that will provide details to the contractor indicating soil handling requirements. GRA will forward this CSMP to RIDEM for review.

If you have any questions regarding the above sampling or the planned remedial work, please feel free to contact us at 401-726-4084 ext 102.

Sincerely

Richard W. Sullivan
Senior Environmental Engineer

Attachments: Figure 1 – Sample Location Plan
Table 2 – Soil Analytical Results – February 21, 2022
Attachment 1 – Confirmatory Soil Analytical Report
Attachment 2 – Future Playground Site Plans and Details
Attachment 3 - Disposal Characterization Soil Analytical Report

cc: Emily Freedman, City of Providence, Department of Planning and Development
Demo Roberts, City of Providence, Department of Public Property

TABLES

Table 2 Soil Analytical Results
Asa Messer Elementary School
February 21, 2022

Sample ID	**GRA-1**		**GRA-2**		**GRA-3**		**GRA-4**		**RIDEM Regulatory Criteria**	
Parameter (Semivolatile Organic Compounds)	Result	RL	Result	RL	Result	RL	Result	RL	R-DEC	I/C-DEC
2-Methylnaphthalene	ND	137	ND	131	**203**	132	ND	267	123000	1.00E+07
Acenaphthene	ND	137	ND	131	**177**	132	ND	267	43000	1.00E+07
Acenaphthylene	**352**	137	ND	131	**1200**	132	ND	267	23000	1.00E+07
Anthracene	**514**	137	**150**	131	**1540**	132	**437**	267	35000	1.00E+07
Benzo(a)anthracene	**1780**	137	**553**	131	**2550**	132	**1880**	267	**900**	7800
Benzo(a)pyrene	**1850**	137	**575**	131	**2500**	132	**1940**	267	**400**	**800**
Benzo(b)fluoranthene	**2220**	137	**703**	131	**2910**	132	**2410**	267	**900**	7800
Benzo(g,h,i)perylene	**1440**	137	**414**	131	**2110**	132	**1480**	267	**800**	1.00E+07
Benzo(k)fluoranthene	**832**	137	**254**	131	**1110**	132	**875**	267	**900**	78000
Chrysene	**1860**	133	**473**	134	ND	133	ND	133	**400**	780000
Dibenz(a,h)anthracene	**333**	133	ND	134	ND	133	ND	133	400	800
Dibenzofuran	ND	133	ND	134	ND	133	ND	133		
Fluoranthene	**3760**	133	**979**	134	ND	133	ND	133	20000	1.00E+07
Fluorene	ND	133	ND	134	ND	133	ND	133	28000	1.00E+07
Indeno(1,2,3-cd)pyrene	**1630**	133	**397**	134	ND	133	ND	133	**900**	7800
Naphthalene	ND	133	ND	134	ND	133	ND	133	54000	1.00E+07
Phenanthrene	**2250**	133	**617**	134	ND	133	ND	133	40000	1.00E+07
Pyrene	**4140**	133	**1120**	134	ND	133	ND	133	13000	1.00E+07

Sample ID	**GRA-5**		**GRA-6**		**GRA-7**		**GRA-8**		**RIDEM Regulatory Criteria**	
Parameter (Semivolatile Organic Compounds)	Result	RL	Result	RL	Result	RL	Result	RL	R-DEC	I/C-DEC
2-Methylnaphthalene	ND	133	ND	134	ND	133	ND	133	123000	1.00E+07
Acenaphthene	ND	133	ND	134	ND	133	ND	133	43000	1.00E+07
Acenaphthylene	**407**	133	ND	134	ND	133	ND	133	23000	1.00E+07
Anthracene	**524**	133	**149**	134	ND	133	ND	133	35000	1.00E+07
Benzo(a)anthracene	**1860**	133	**499**	134	ND	133	ND	133	**900**	7800
Benzo(a)pyrene	**1900**	133	**508**	134	ND	133	ND	133	**400**	**800**
Benzo(b)fluoranthene	**2420**	133	**606**	134	ND	133	ND	133	**900**	7800
Benzo(g,h,i)perylene	**1600**	133	**413**	134	ND	133	ND	133	**800**	1.00E+07
Benzo(k)fluoranthene	**900**	133	**226**	134	ND	133	ND	133	**900**	78000
Chrysene	**1860**	133	**473**	134	ND	133	ND	133	**400**	780000
Dibenz(a,h)anthracene	**333**	133	ND	134	ND	133	ND	133	400	800
Dibenzofuran	ND	133	ND	134	ND	133	ND	133		
Fluoranthene	**3760**	133	**979**	134	ND	133	ND	133	20000	1.00E+07
Fluorene	ND	133	ND	134	ND	133	ND	133	28000	1.00E+07
Indeno(1,2,3-cd)pyrene	**1630**	133	**397**	134	ND	133	ND	133	**900**	7800
Naphthalene	ND	133	ND	134	ND	133	ND	133	54000	1.00E+07
Phenanthrene	**2250**	133	**617**	134	ND	133	ND	133	40000	1.00E+07
Pyrene	**4140**	133	**1120**	134	ND	133	ND	133	13000	1.00E+07

Table 2 Soil Analytical Results
Asa Messer Elementary School
February 21, 2022

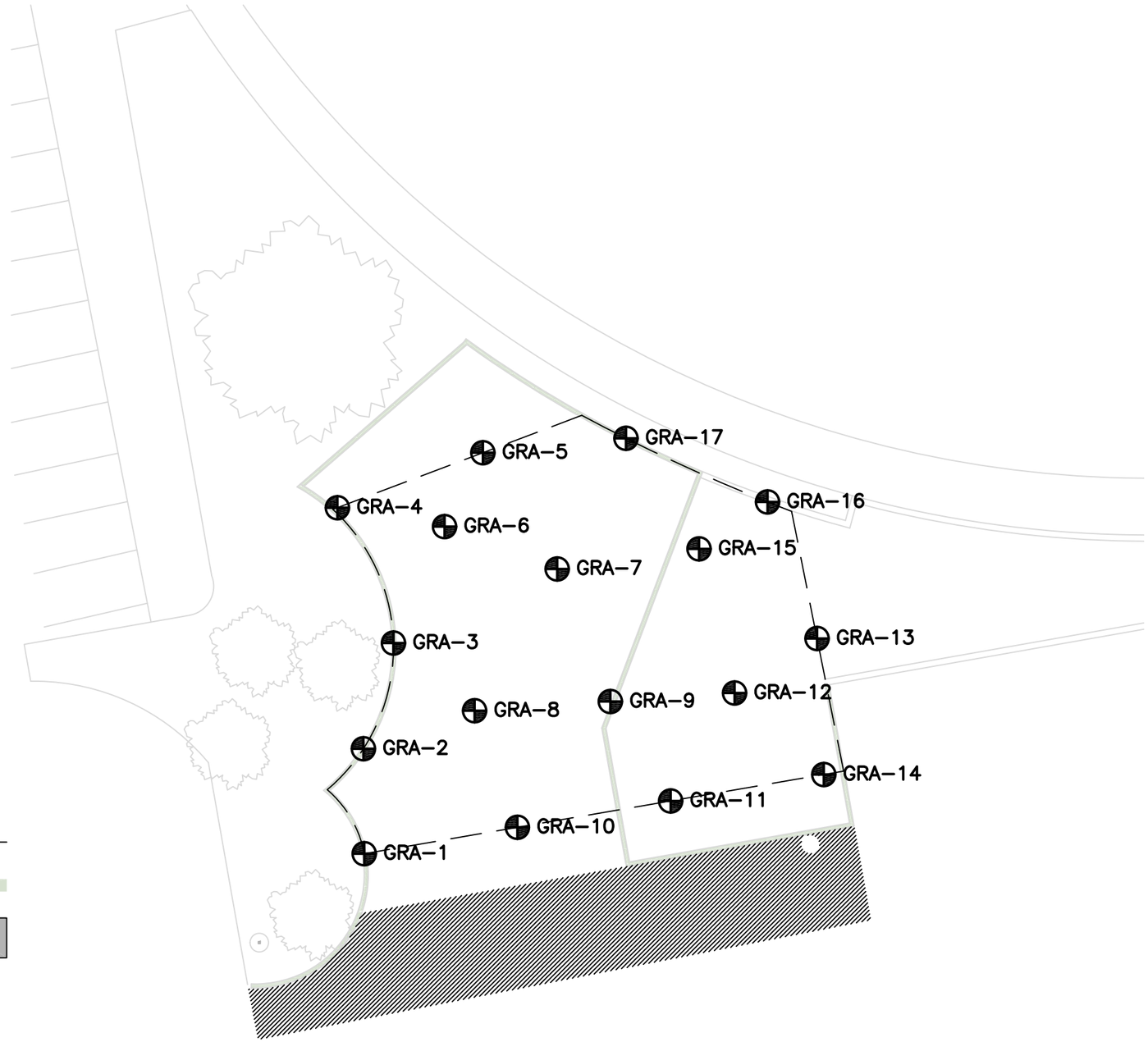
Sample ID	**GRA-9**		**GRA-10**		**GRA-11**		**GRA-12**		**RIDEM Regulatory Criteria**	
Parameter (Semivolatile Organic Compounds)	Result	RL	Result	RL	Result	RL	Result	RL	R-DEC	I/C-DEC
2-Methylnaphthalene	ND	136	ND	134	ND	134	ND	134	123000	1.00E+07
Acenaphthene	ND	136	ND	134	ND	134	ND	134	43000	1.00E+07
Acenaphthylene	ND	136	ND	134	ND	134	ND	134	23000	1.00E+07
Anthracene	ND	136	ND	134	ND	134	ND	134	35000	1.00E+07
Benzo(a)anthracene	ND	136	ND	134	ND	134	ND	134	**900**	7800
Benzo(a)pyrene	ND	136	ND	134	ND	134	ND	134	**400**	**800**
Benzo(b)fluoranthene	ND	136	ND	134	ND	134	ND	134	**900**	7800
Benzo(g,h,i)perylene	ND	136	ND	134	ND	134	ND	134	**800**	1.00E+07
Benzo(k)fluoranthene	ND	136	ND	134	ND	134	ND	134	**900**	78000
Chrysene	ND	136	ND	134	ND	134	ND	134	**400**	780000
Dibenz(a,h)anthracene	ND	136	ND	134	ND	134	ND	134	400	800
Dibenzofuran	ND	136	ND	134	ND	134	ND	134		
Fluoranthene	ND	136	ND	134	ND	134	ND	134	20000	1.00E+07
Fluorene	ND	136	ND	134	ND	134	ND	134	28000	1.00E+07
Indeno(1,2,3-cd)pyrene	ND	136	ND	134	ND	134	ND	134	**900**	7800
Naphthalene	ND	136	ND	134	ND	134	ND	134	54000	1.00E+07
Phenanthrene	ND	136	ND	134	ND	134	ND	134	40000	1.00E+07
Pyrene	ND	136	ND	134	ND	134	ND	134	13000	1.00E+07

Sample ID	**GRA-13**		**GRA-14**		**GRA-15**		**GRA-16**		**RIDEM Regulatory Criteria**	
Parameter (Semivolatile Organic Compounds)	Result	RL	Result	RL	Result	RL	Result	RL	R-DEC	I/C-DEC
2-Methylnaphthalene	ND	135	ND	135	ND	134	ND	134	123000	1.00E+07
Acenaphthene	ND	135	ND	135	ND	134	ND	134	43000	1.00E+07
Acenaphthylene	ND	135	ND	135	ND	134	ND	134	23000	1.00E+07
Anthracene	ND	135	ND	135	ND	134	ND	134	35000	1.00E+07
Benzo(a)anthracene	ND	135	ND	135	ND	134	ND	134	**900**	7800
Benzo(a)pyrene	ND	135	ND	135	ND	134	ND	134	**400**	**800**
Benzo(b)fluoranthene	ND	135	ND	135	ND	134	ND	134	**900**	7800
Benzo(g,h,i)perylene	ND	135	ND	135	ND	134	ND	134	**800**	1.00E+07
Benzo(k)fluoranthene	ND	135	ND	135	ND	134	ND	134	**900**	78000
Chrysene	ND	135	ND	135	ND	134	ND	134	**400**	780000
Dibenz(a,h)anthracene	ND	135	ND	135	ND	134	ND	134	400	800
Dibenzofuran	ND	135	ND	135	ND	134	ND	134		
Fluoranthene	ND	135	ND	135	ND	134	ND	134	20000	1.00E+07
Fluorene	ND	135	ND	135	ND	134	ND	134	28000	1.00E+07
Indeno(1,2,3-cd)pyrene	ND	135	ND	135	ND	134	ND	134	**900**	7800
Naphthalene	ND	135	ND	135	ND	134	ND	134	54000	1.00E+07
Phenanthrene	ND	135	ND	135	ND	134	ND	134	40000	1.00E+07
Pyrene	ND	135	ND	135	ND	134	ND	134	13000	1.00E+07

Table 2 Soil Analytical Results
Asa Messer Elementary School
February 21, 2022

Sample ID	**GRA-17**		**RIDEM Regulatory Criteria**	
Parameter (Semivolative Organic Compounds)	Result	RL	R-DEC	I/C-DEC
2-Methylnaphthalene	ND	135	123000	1.00E+07
Acenaphthene	ND	135	43000	1.00E+07
Acenaphthylene	ND	135	23000	1.00E+07
Anthracene	ND	135	35000	1.00E+07
Benzo(a)anthracene	ND	135	**900**	7800
Benzo(a)pyrene	ND	135	**400**	**800**
Benzo(b)fluoranthene	ND	135	**900**	7800
Benzo(g,h,i)perylene	ND	135	**800**	1.00E+07
Benzo(k)fluoranthene	ND	135	**900**	78000
Chrysene	ND	135	**400**	780000
Dibenz(a,h)anthracene	ND	135	400	800
Dibenzofuran	ND	135		
Fluoranthene	**199**	135	20000	1.00E+07
Fluorene	ND	135	28000	1.00E+07
Indeno(1,2,3-cd)pyrene	ND	135	**900**	7800
Naphthalene	ND	135	54000	1.00E+07
Phenanthrene	**153**	135	40000	1.00E+07
Pyrene	**207**	135	13000	1.00E+07

FIGURES



APPROXIMATE SOIL PILE EXTENTS

PROPOSED PLAYGROUND LIMITS

PROPOSED PARKING AREA

SOIL SAMPLE LOCATION

NOTES / REFERENCES

1. REFERENCE IS MADE TO THE FOLLOWING PLANS OF RECORD;
   PLAN ENTITLED "ASA MESSER OUTDOOR CLASSROOM PLAY AREA 1655 WESTMINSTER ST, PROVIDENCE, RI, 02909" STUDIO JAED PROVIDENCE OFFICE 42 WEYBOSSET STREET, STE. 403 PROVIDENCE RHODE ISLAND 02903

ASA MESSER PLAAYGROUND SAMPLING LOCATIONS CITY OF PROVIDENCE

FEBRUARY, 2022 SCALE: 1”=20’

a division of **GM2**

F:\FILES\CAD\2035\Project Plans\Asa Messer Playground Sample Locations.dwg, 3/4/2022 12:42:22 PM, Adobe PDF

F:\FILES\CAD\2035\PROJECT PLANS\ASA MESSER PLAYGROUND SAMPLE LOCATIONS

ATTACHMENT 1

Confirmatory Soil Analytical Report

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 2B21008
Client Project: 2035 - Providence

Report Date: 02-March-2022

Prepared for:

Rick Sullivan
Gordon R. Archibald, Inc.
200 Main Street
Pawtucket, RI 02860

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 02/21/22. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 2B21008. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
2B21008-01	GRA-1	Soil	02/21/2022	02/21/2022
2B21008-02	GRA-2	Soil	02/21/2022	02/21/2022
2B21008-03	GRA-3	Soil	02/21/2022	02/21/2022
2B21008-04	GRA-4	Soil	02/21/2022	02/21/2022
2B21008-05	GRA-5	Soil	02/21/2022	02/21/2022
2B21008-06	GRA-6	Soil	02/21/2022	02/21/2022
2B21008-07	GRA-7	Soil	02/21/2022	02/21/2022
2B21008-08	GRA-8	Soil	02/21/2022	02/21/2022
2B21008-09	GRA-9	Soil	02/21/2022	02/21/2022
2B21008-10	GRA-10	Soil	02/21/2022	02/21/2022
2B21008-11	GRA-11	Soil	02/21/2022	02/21/2022
2B21008-12	GRA-12	Soil	02/21/2022	02/21/2022
2B21008-13	GRA-13	Soil	02/21/2022	02/21/2022
2B21008-14	GRA-14	Soil	02/21/2022	02/21/2022
2B21008-15	GRA-15	Soil	02/21/2022	02/21/2022
2B21008-16	GRA-16	Soil	02/21/2022	02/21/2022
2B21008-17	GRA-17	Soil	02/21/2022	02/21/2022

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

GRA-1 (Lab Number: 2B21008-01)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-10 (Lab Number: 2B21008-10)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-11 (Lab Number: 2B21008-11)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-12 (Lab Number: 2B21008-12)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-13 (Lab Number: 2B21008-13)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-14 (Lab Number: 2B21008-14)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-15 (Lab Number: 2B21008-15)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-16 (Lab Number: 2B21008-16)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-17 (Lab Number: 2B21008-17)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-2 (Lab Number: 2B21008-02)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-3 (Lab Number: 2B21008-03)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-4 (Lab Number: 2B21008-04)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

Request for Analysis (continued)

GRA-5 (Lab Number: 2B21008-05)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-6 (Lab Number: 2B21008-06)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-7 (Lab Number: 2B21008-07)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-8 (Lab Number: 2B21008-08)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

GRA-9 (Lab Number: 2B21008-09)

Analysis	Method
Polynuclear Aromatic Hydrocarbons	EPA 8270D

Method References

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: Semivolatile organic compounds

Sample: GRA-1

Lab Number: 2B21008-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		137	ug/kg	02/26/22	02/28/22
Acenaphthene	ND		137	ug/kg	02/26/22	02/28/22
Acenaphthylene	**352**		137	ug/kg	02/26/22	02/28/22
Anthracene	**514**		137	ug/kg	02/26/22	02/28/22
Benzo(a)anthracene	**1780**		137	ug/kg	02/26/22	02/28/22
Benzo(a)pyrene	**1850**		137	ug/kg	02/26/22	02/28/22
Benzo(b)fluoranthene	**2220**		137	ug/kg	02/26/22	02/28/22
Benzo(g,h,i)perylene	**1440**		137	ug/kg	02/26/22	02/28/22
Benzo(k)fluoranthene	**832**		137	ug/kg	02/26/22	02/28/22
Chrysene	**1700**		137	ug/kg	02/26/22	02/28/22
Dibenz(a,h)anthracene	**340**		137	ug/kg	02/26/22	02/28/22
Dibenzofuran	ND		137	ug/kg	02/26/22	02/28/22
Fluoranthene	**3260**		137	ug/kg	02/26/22	02/28/22
Fluorene	ND		137	ug/kg	02/26/22	02/28/22
Indeno(1,2,3-cd)pyrene	**1510**		137	ug/kg	02/26/22	02/28/22
Naphthalene	ND		137	ug/kg	02/26/22	02/28/22
Phenanthrene	**1980**		137	ug/kg	02/26/22	02/28/22
Pyrene	**3750**		137	ug/kg	02/26/22	02/28/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*62.3%*	*30-126*	02/26/22	02/28/22
p-Terphenyl-d14	*100%*	*47-130*	02/26/22	02/28/22
2-Fluorobiphenyl	*73.4%*	*34-130*	02/26/22	02/28/22

Results: Semivolatile organic compounds

Sample: GRA-2

Lab Number: 2B21008-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		131	ug/kg	02/26/22	02/28/22
Acenaphthene	ND		131	ug/kg	02/26/22	02/28/22
Acenaphthylene	ND		131	ug/kg	02/26/22	02/28/22
Anthracene	**150**		131	ug/kg	02/26/22	02/28/22
Benzo(a)anthracene	**553**		131	ug/kg	02/26/22	02/28/22
Benzo(a)pyrene	**575**		131	ug/kg	02/26/22	02/28/22
Benzo(b)fluoranthene	**703**		131	ug/kg	02/26/22	02/28/22
Benzo(g,h,i)perylene	**414**		131	ug/kg	02/26/22	02/28/22
Benzo(k)fluoranthene	**254**		131	ug/kg	02/26/22	02/28/22
Chrysene	**523**		131	ug/kg	02/26/22	02/28/22
Dibenz(a,h)anthracene	ND		131	ug/kg	02/26/22	02/28/22
Dibenzofuran	ND		131	ug/kg	02/26/22	02/28/22
Fluoranthene	**1120**		131	ug/kg	02/26/22	02/28/22
Fluorene	ND		131	ug/kg	02/26/22	02/28/22
Indeno(1,2,3-cd)pyrene	**421**		131	ug/kg	02/26/22	02/28/22
Naphthalene	ND		131	ug/kg	02/26/22	02/28/22
Phenanthrene	**612**		131	ug/kg	02/26/22	02/28/22
Pyrene	**1110**		131	ug/kg	02/26/22	02/28/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*78.1%*	*30-126*	02/26/22	02/28/22
p-Terphenyl-d14	*101%*	*47-130*	02/26/22	02/28/22
2-Fluorobiphenyl	*80.4%*	*34-130*	02/26/22	02/28/22

Results: Semivolatile organic compounds

Sample: GRA-3

Lab Number: 2B21008-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	**203**		132	ug/kg	02/26/22	02/28/22
Acenaphthene	**177**		132	ug/kg	02/26/22	02/28/22
Acenaphthylene	**1200**		132	ug/kg	02/26/22	02/28/22
Anthracene	**1540**		132	ug/kg	02/26/22	02/28/22
Benzo(a)anthracene	**2550**		132	ug/kg	02/26/22	02/28/22
Benzo(a)pyrene	**2500**		132	ug/kg	02/26/22	02/28/22
Benzo(b)fluoranthene	**2910**		132	ug/kg	02/26/22	02/28/22
Benzo(g,h,i)perylene	**2110**		132	ug/kg	02/26/22	02/28/22
Benzo(k)fluoranthene	**1110**		132	ug/kg	02/26/22	02/28/22
Chrysene	**2390**		132	ug/kg	02/26/22	02/28/22
Dibenz(a,h)anthracene	**357**		132	ug/kg	02/26/22	02/28/22
Dibenzofuran	**654**		132	ug/kg	02/26/22	02/28/22
Fluoranthene	**5760**		132	ug/kg	02/26/22	02/28/22
Fluorene	**815**		132	ug/kg	02/26/22	02/28/22
Indeno(1,2,3-cd)pyrene	**2000**		132	ug/kg	02/26/22	02/28/22
Naphthalene	**274**		132	ug/kg	02/26/22	02/28/22
Phenanthrene	**6110**		132	ug/kg	02/26/22	02/28/22
Pyrene	**6150**		132	ug/kg	02/26/22	02/28/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*80.8%*	*30-126*	02/26/22	02/28/22
p-Terphenyl-d14	*107%*	*47-130*	02/26/22	02/28/22
2-Fluorobiphenyl	*85.1%*	*34-130*	02/26/22	02/28/22

Results: Semivolatile organic compounds

Sample: GRA-4

Lab Number: 2B21008-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		267	ug/kg	02/26/22	02/28/22
Acenaphthene	ND		267	ug/kg	02/26/22	02/28/22
Acenaphthylene	ND		267	ug/kg	02/26/22	02/28/22
Anthracene	**437**		267	ug/kg	02/26/22	02/28/22
Benzo(a)anthracene	**1880**		267	ug/kg	02/26/22	02/28/22
Benzo(a)pyrene	**1940**		267	ug/kg	02/26/22	02/28/22
Benzo(b)fluoranthene	**2410**		267	ug/kg	02/26/22	02/28/22
Benzo(g,h,i)perylene	**1480**		267	ug/kg	02/26/22	02/28/22
Benzo(k)fluoranthene	**875**		267	ug/kg	02/26/22	02/28/22
Chrysene	**1640**		267	ug/kg	02/26/22	02/28/22
Dibenz(a,h)anthracene	**300**		267	ug/kg	02/26/22	02/28/22
Dibenzofuran	ND		267	ug/kg	02/26/22	02/28/22
Fluoranthene	**3790**		267	ug/kg	02/26/22	02/28/22
Fluorene	ND		267	ug/kg	02/26/22	02/28/22
Indeno(1,2,3-cd)pyrene	**1540**		267	ug/kg	02/26/22	02/28/22
Naphthalene	ND		267	ug/kg	02/26/22	02/28/22
Phenanthrene	**1950**		267	ug/kg	02/26/22	02/28/22
Pyrene	**3830**		267	ug/kg	02/26/22	02/28/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*70.2%*	*30-126*	02/26/22	02/28/22
p-Terphenyl-d14	*90.1%*	*47-130*	02/26/22	02/28/22
2-Fluorobiphenyl	*75.2%*	*34-130*	02/26/22	02/28/22

Results: Semivolatile organic compounds

Sample: GRA-5

Lab Number: 2B21008-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		133	ug/kg	02/26/22	02/28/22
Acenaphthene	ND		133	ug/kg	02/26/22	02/28/22
Acenaphthylene	**407**		133	ug/kg	02/26/22	02/28/22
Anthracene	**524**		133	ug/kg	02/26/22	02/28/22
Benzo(a)anthracene	**1860**		133	ug/kg	02/26/22	02/28/22
Benzo(a)pyrene	**1900**		133	ug/kg	02/26/22	02/28/22
Benzo(b)fluoranthene	**2420**		133	ug/kg	02/26/22	02/28/22
Benzo(g,h,i)perylene	**1600**		133	ug/kg	02/26/22	02/28/22
Benzo(k)fluoranthene	**900**		133	ug/kg	02/26/22	02/28/22
Chrysene	**1860**		133	ug/kg	02/26/22	02/28/22
Dibenz(a,h)anthracene	**333**		133	ug/kg	02/26/22	02/28/22
Dibenzofuran	ND		133	ug/kg	02/26/22	02/28/22
Fluoranthene	**3760**		133	ug/kg	02/26/22	02/28/22
Fluorene	ND		133	ug/kg	02/26/22	02/28/22
Indeno(1,2,3-cd)pyrene	**1630**		133	ug/kg	02/26/22	02/28/22
Naphthalene	ND		133	ug/kg	02/26/22	02/28/22
Phenanthrene	**2250**		133	ug/kg	02/26/22	02/28/22
Pyrene	**4140**		133	ug/kg	02/26/22	02/28/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*72.6%*	*30-126*	02/26/22	02/28/22
p-Terphenyl-d14	*99.1%*	*47-130*	02/26/22	02/28/22
2-Fluorobiphenyl	*73.6%*	*34-130*	02/26/22	02/28/22

Results: Semivolatile organic compounds

Sample: GRA-6

Lab Number: 2B21008-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		134	ug/kg	02/26/22	02/28/22
Acenaphthene	ND		134	ug/kg	02/26/22	02/28/22
Acenaphthylene	ND		134	ug/kg	02/26/22	02/28/22
Anthracene	**149**		134	ug/kg	02/26/22	02/28/22
Benzo(a)anthracene	**499**		134	ug/kg	02/26/22	02/28/22
Benzo(a)pyrene	**508**		134	ug/kg	02/26/22	02/28/22
Benzo(b)fluoranthene	**606**		134	ug/kg	02/26/22	02/28/22
Benzo(g,h,i)perylene	**413**		134	ug/kg	02/26/22	02/28/22
Benzo(k)fluoranthene	**226**		134	ug/kg	02/26/22	02/28/22
Chrysene	**473**		134	ug/kg	02/26/22	02/28/22
Dibenz(a,h)anthracene	ND		134	ug/kg	02/26/22	02/28/22
Dibenzofuran	ND		134	ug/kg	02/26/22	02/28/22
Fluoranthene	**979**		134	ug/kg	02/26/22	02/28/22
Fluorene	ND		134	ug/kg	02/26/22	02/28/22
Indeno(1,2,3-cd)pyrene	**397**		134	ug/kg	02/26/22	02/28/22
Naphthalene	ND		134	ug/kg	02/26/22	02/28/22
Phenanthrene	**617**		134	ug/kg	02/26/22	02/28/22
Pyrene	**1120**		134	ug/kg	02/26/22	02/28/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*74.3%*	*30-126*	02/26/22	02/28/22
p-Terphenyl-d14	*102%*	*47-130*	02/26/22	02/28/22
2-Fluorobiphenyl	*75.5%*	*34-130*	02/26/22	02/28/22

Results: Semivolatile organic compounds

Sample: GRA-7

Lab Number: 2B21008-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		133	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		133	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		133	ug/kg	02/28/22	03/01/22
Anthracene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		133	ug/kg	02/28/22	03/01/22
Chrysene	ND		133	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		133	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		133	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		133	ug/kg	02/28/22	03/01/22
Fluorene	ND		133	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		133	ug/kg	02/28/22	03/01/22
Naphthalene	ND		133	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		133	ug/kg	02/28/22	03/01/22
Pyrene	ND		133	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*31.4%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*49.3%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*34.2%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-8

Lab Number: 2B21008-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		133	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		133	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		133	ug/kg	02/28/22	03/01/22
Anthracene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		133	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		133	ug/kg	02/28/22	03/01/22
Chrysene	ND		133	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		133	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		133	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		133	ug/kg	02/28/22	03/01/22
Fluorene	ND		133	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		133	ug/kg	02/28/22	03/01/22
Naphthalene	ND		133	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		133	ug/kg	02/28/22	03/01/22
Pyrene	ND		133	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*67.3%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*83.7%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*66.0%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-9

Lab Number: 2B21008-09 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		136	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		136	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		136	ug/kg	02/28/22	03/01/22
Anthracene	ND		136	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		136	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		136	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		136	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		136	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		136	ug/kg	02/28/22	03/01/22
Chrysene	ND		136	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		136	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		136	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		136	ug/kg	02/28/22	03/01/22
Fluorene	ND		136	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		136	ug/kg	02/28/22	03/01/22
Naphthalene	ND		136	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		136	ug/kg	02/28/22	03/01/22
Pyrene	ND		136	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*61.7%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*80.4%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*64.1%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-10

Lab Number: 2B21008-10 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		134	ug/kg	02/28/22	03/01/22
Anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Chrysene	ND		134	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		134	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Fluorene	ND		134	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Naphthalene	ND		134	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		134	ug/kg	02/28/22	03/01/22
Pyrene	ND		134	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*64.2%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*79.5%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*61.8%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-11

Lab Number: 2B21008-11 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		134	ug/kg	02/28/22	03/01/22
Anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Chrysene	ND		134	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		134	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Fluorene	ND		134	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Naphthalene	ND		134	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		134	ug/kg	02/28/22	03/01/22
Pyrene	ND		134	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*71.2%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*83.5%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*70.0%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-12

Lab Number: 2B21008-12 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		134	ug/kg	02/28/22	03/01/22
Anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Chrysene	ND		134	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		134	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Fluorene	ND		134	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Naphthalene	ND		134	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		134	ug/kg	02/28/22	03/01/22
Pyrene	ND		134	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*71.2%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*82.4%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*67.9%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-13

Lab Number: 2B21008-13 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		135	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		135	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		135	ug/kg	02/28/22	03/01/22
Anthracene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Chrysene	ND		135	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		135	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		135	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Fluorene	ND		135	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		135	ug/kg	02/28/22	03/01/22
Naphthalene	ND		135	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		135	ug/kg	02/28/22	03/01/22
Pyrene	ND		135	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*70.2%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*92.1%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*69.3%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-14

Lab Number: 2B21008-14 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		135	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		135	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		135	ug/kg	02/28/22	03/01/22
Anthracene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Chrysene	ND		135	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		135	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		135	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Fluorene	ND		135	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		135	ug/kg	02/28/22	03/01/22
Naphthalene	ND		135	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		135	ug/kg	02/28/22	03/01/22
Pyrene	ND		135	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*78.4%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*92.5%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*73.7%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-15

Lab Number: 2B21008-15 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		134	ug/kg	02/28/22	03/01/22
Anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Chrysene	ND		134	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		134	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Fluorene	ND		134	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Naphthalene	ND		134	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		134	ug/kg	02/28/22	03/01/22
Pyrene	ND		134	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*68.3%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*90.1%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*67.7%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-16

Lab Number: 2B21008-16 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		134	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		134	ug/kg	02/28/22	03/01/22
Anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		134	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Chrysene	ND		134	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		134	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		134	ug/kg	02/28/22	03/01/22
Fluoranthene	ND		134	ug/kg	02/28/22	03/01/22
Fluorene	ND		134	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		134	ug/kg	02/28/22	03/01/22
Naphthalene	ND		134	ug/kg	02/28/22	03/01/22
Phenanthrene	ND		134	ug/kg	02/28/22	03/01/22
Pyrene	ND		134	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*59.8%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*84.5%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*57.4%*	*34-130*	02/28/22	03/01/22

Results: Semivolatile organic compounds

Sample: GRA-17

Lab Number: 2B21008-17 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
2-Methylnaphthalene	ND		135	ug/kg	02/28/22	03/01/22
Acenaphthene	ND		135	ug/kg	02/28/22	03/01/22
Acenaphthylene	ND		135	ug/kg	02/28/22	03/01/22
Anthracene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(a)anthracene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(a)pyrene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(b)fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(g,h,i)perylene	ND		135	ug/kg	02/28/22	03/01/22
Benzo(k)fluoranthene	ND		135	ug/kg	02/28/22	03/01/22
Chrysene	ND		135	ug/kg	02/28/22	03/01/22
Dibenz(a,h)anthracene	ND		135	ug/kg	02/28/22	03/01/22
Dibenzofuran	ND		135	ug/kg	02/28/22	03/01/22
Fluoranthene	**199**		135	ug/kg	02/28/22	03/01/22
Fluorene	ND		135	ug/kg	02/28/22	03/01/22
Indeno(1,2,3-cd)pyrene	ND		135	ug/kg	02/28/22	03/01/22
Naphthalene	ND		135	ug/kg	02/28/22	03/01/22
Phenanthrene	**153**		135	ug/kg	02/28/22	03/01/22
Pyrene	**207**		135	ug/kg	02/28/22	03/01/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*69.3%*	*30-126*	02/28/22	03/01/22
p-Terphenyl-d14	*92.3%*	*47-130*	02/28/22	03/01/22
2-Fluorobiphenyl	*69.7%*	*34-130*	02/28/22	03/01/22

Quality Control

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1169 - EPA 3546										
Blank (B2B1169-BLK1)					Prepared: 02/26/22 Analyzed: 02/28/22					
2-Methylnaphthalene	ND		130	ug/kg						
Acenaphthene	ND		130	ug/kg						
Acenaphthylene	ND		130	ug/kg						
Anthracene	ND		130	ug/kg						
Benzo(a)anthracene	ND		130	ug/kg						
Benzo(a)pyrene	ND		130	ug/kg						
Benzo(b)fluoranthene	ND		130	ug/kg						
Benzo(g,h,i)perylene	ND		130	ug/kg						
Benzo(k)fluoranthene	ND		130	ug/kg						
Chrysene	ND		130	ug/kg						
Dibenz(a,h)anthracene	ND		130	ug/kg						
Dibenzofuran	ND		130	ug/kg						
Fluoranthene	ND		130	ug/kg						
Fluorene	ND		130	ug/kg						
Indeno(1,2,3-cd)pyrene	ND		130	ug/kg						
Naphthalene	ND		130	ug/kg						
Phenanthrene	ND		130	ug/kg						
Pyrene	ND		130	ug/kg						
Surrogate: Nitrobenzene-d5			*2150*	ug/kg	*3330*		*64.6*	*30-126*		
Surrogate: p-Terphenyl-d14			*2580*	ug/kg	*3330*		*77.4*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2080*	ug/kg	*3330*		*62.5*	*34-130*		
LCS (B2B1169-BS1)					Prepared: 02/26/22 Analyzed: 02/28/22					
2-Methylnaphthalene	2330		130	ug/kg	3330		69.9	40-140		
Acenaphthene	2380		130	ug/kg	3330		71.3	40-140		
Acenaphthylene	2370		130	ug/kg	3330		71.2	40-140		
Anthracene	2490		130	ug/kg	3330		74.8	40-140		
Benzo(a)anthracene	2550		130	ug/kg	3330		76.4	40-140		
Benzo(a)pyrene	2680		130	ug/kg	3330		80.3	40-140		
Benzo(b)fluoranthene	2830		130	ug/kg	3330		85.0	40-140		
Benzo(g,h,i)perylene	2430		130	ug/kg	3330		72.8	40-140		
Benzo(k)fluoranthene	2890		130	ug/kg	3330		86.6	40-140		
Chrysene	2680		130	ug/kg	3330		80.4	40-140		
Dibenz(a,h)anthracene	2440		130	ug/kg	3330		73.3	40-140		
Dibenzofuran	2370		130	ug/kg	3330		71.0	40-140		
Fluoranthene	2480		130	ug/kg	3330		74.4	40-140		
Fluorene	2510		130	ug/kg	3330		75.3	40-140		
Indeno(1,2,3-cd)pyrene	2330		130	ug/kg	3330		69.9	40-140		
Naphthalene	2260		130	ug/kg	3330		67.9	40-140		
Phenanthrene	2540		130	ug/kg	3330		76.3	40-140		
Pyrene	2740		130	ug/kg	3330		82.2	40-140		
Surrogate: Nitrobenzene-d5			*2400*	ug/kg	*3330*		*72.0*	*30-126*		
Surrogate: p-Terphenyl-d14			*2860*	ug/kg	*3330*		*85.7*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2310*	ug/kg	*3330*		*69.2*	*34-130*		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1169 - EPA 3546 (Continued)										
LCS Dup (B2B1169-BSD1)					Prepared: 02/26/22 Analyzed: 02/28/22					
2-Methylnaphthalene	2320		130	ug/kg	3330		69.7	40-140	0.287	30
Acenaphthene	2390		130	ug/kg	3330		71.8	40-140	0.671	30
Acenaphthylene	2340		130	ug/kg	3330		70.2	40-140	1.47	30
Anthracene	2540		130	ug/kg	3330		76.3	40-140	2.01	30
Benzo(a)anthracene	2500		130	ug/kg	3330		75.1	40-140	1.72	30
Benzo(a)pyrene	2670		130	ug/kg	3330		80.2	40-140	0.150	30
Benzo(b)fluoranthene	2790		130	ug/kg	3330		83.7	40-140	1.52	30
Benzo(g,h,i)perylene	2410		130	ug/kg	3330		72.2	40-140	0.883	30
Benzo(k)fluoranthene	2870		130	ug/kg	3330		86.0	40-140	0.742	30
Chrysene	2630		130	ug/kg	3330		79.0	40-140	1.71	30
Dibenz(a,h)anthracene	2480		130	ug/kg	3330		74.4	40-140	1.38	30
Dibenzofuran	2380		130	ug/kg	3330		71.4	40-140	0.590	30
Fluoranthene	2510		130	ug/kg	3330		75.2	40-140	1.07	30
Fluorene	2480		130	ug/kg	3330		74.4	40-140	1.20	30
Indeno(1,2,3-cd)pyrene	2310		130	ug/kg	3330		69.3	40-140	0.862	30
Naphthalene	2270		130	ug/kg	3330		68.1	40-140	0.382	30
Phenanthrene	2540		130	ug/kg	3330		76.2	40-140	0.236	30
Pyrene	2680		130	ug/kg	3330		80.4	40-140	2.26	30
Surrogate: Nitrobenzene-d5			*2400*	ug/kg	*3330*		*71.9*	*30-126*		
Surrogate: p-Terphenyl-d14			*2840*	ug/kg	*3330*		*85.1*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2310*	ug/kg	*3330*		*69.2*	*34-130*		
Batch: B2B1175 - EPA 3546										
Blank (B2B1175-BLK1)					Prepared: 02/28/22 Analyzed: 03/01/22					
2-Methylnaphthalene	ND		130	ug/kg						
Acenaphthene	ND		130	ug/kg						
Acenaphthylene	ND		130	ug/kg						
Anthracene	ND		130	ug/kg						
Benzo(a)anthracene	ND		130	ug/kg						
Benzo(a)pyrene	ND		130	ug/kg						
Benzo(b)fluoranthene	ND		130	ug/kg						
Benzo(g,h,i)perylene	ND		130	ug/kg						
Benzo(k)fluoranthene	ND		130	ug/kg						
Chrysene	ND		130	ug/kg						
Dibenz(a,h)anthracene	ND		130	ug/kg						
Dibenzofuran	ND		130	ug/kg						
Fluoranthene	ND		130	ug/kg						
Fluorene	ND		130	ug/kg						
Indeno(1,2,3-cd)pyrene	ND		130	ug/kg						
Naphthalene	ND		130	ug/kg						
Phenanthrene	ND		130	ug/kg						
Pyrene	ND		130	ug/kg						
Surrogate: Nitrobenzene-d5			*1630*	ug/kg	*3330*		*48.8*	*30-126*		
Surrogate: p-Terphenyl-d14			*2130*	ug/kg	*3330*		*63.9*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*1580*	ug/kg	*3330*		*47.5*	*34-130*		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

NEW ENGLAND TESTING LABORATORY, INC.
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

CHAIN OF CUSTODY RECORD

2 B 2 10081

PROJ NO. 2035 | PROJECT NAME/LOCATION: Providence

CLIENT: Gordon R Archibald

REPORT TO: Rick Sullivan

INVOICE TO: Rick Sullivan

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS** RCRA 8 Metals	PCBs	TPH 8100M	5 VOCs 8270	Ph + Flashpoint	Free Liquids	REMARKS
2-21	AM			GRA-1		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-2		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-3		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-4		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-5		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-6		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-7		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-8		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-9		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-10		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-11		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-12		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-13		X		1	—	X	X	X	X	X	X	
2-21	AM			GRA-14		X		1	—	X	X	X	X	X	X	

	Date/Time		Date/Time		
Sampled by (Signature)	2-21 2:31	Received by (Signature)		Laboratory Remarks:	Special Instructions:
Relinquished by (Signature)	2-21 2:31	Received by (Signature)		Temp. received: _____	List Specific Detection Limit Requirements:
Relinquished by (Signature)		Received for Laboratory by (Signature)	2/21 1430	Cooled ☐	Turnaround (Business Days)_____

**Netlab subcontracts the following tests: Radiologicals, Radon, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates, CT ETPH

NEW ENGLAND TESTING LABORATORY, INC.
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

CHAIN OF CUSTODY RECORD

PROJ. NO.: 2035
PROJECT NAME/LOCATION: Providence
CLIENT: Gordon R. Archibald
REPORT TO: Rick Sullivan
INVOICE TO: Rick Sullivan

DATE	TIME	COMP	GRAB	SAMPLE I D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS** RCRA 8 metals	PCBs	TPH 8100M	SVOCs 8270	Ph	Flashpoint	Free Liquids	VOC EPA 8260	REMARKS
2-21	PM		X	GRA-15		X		1	none	X	X	X	X	X	X	X		
2-21	PM		X	GRA-16		X		1	none	X	X	X	X	X	X	X		
2-21	PM		X	GRA-17		X		1	none	X	X	X	X	X	X	X		
2-21	AM	X		GRA-W		X		1	none	X	X	X	X	X	X	X		
2-21	AM	X		GRA-W1		X		1	MEOH								X	
2-21	AM	X		GRA-W2		X		1	MEOH								X	
2-21	PM	X		GRA-E		X		1	~~MEOH~~	X	X	X	X	X	X	X		
2-21	PM	X		GRA-E1		X		1	MEOH								X	
2-21	PM	X		GRA-E2		X		1	MEOH								X	

	Date/Time		Date/Time
Sampled by: (Signature)	2-21 2:31	Received by: (Signature)	
Relinquished by (Signature)	2-21 2:31	Received by: (Signature)	
Relinquished by: (Signature)		Received for Laboratory by: (Signature)	2/24 1430

Laboratory Remarks:
Temp. received. _____
Cooled ☐

Special Instructions:
List Specific Detection Limit Requirements.

Turnaround (Business Days)_____

**Netlab subcontracts the following tests: Radiologicals, Radon, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates, CT ETPH

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

2B2 10081

Chain of Custody Record

Project No. 2035 | **Project Name/Location:** Asa Messer Elementary School, Proividence, RI

Client: GRA

Report To: Richard Sullivan

Invoice To: Richard Sullivan

Date	Time	Comp	Grab	Sample I.D.	Matrix: Aqueous	Matrix: Soil	Matrix: Other	No. of Containers	Preservative	Tests**: PAH only (EPA 8270)	Tests**:	Tests**:	Tests**:	Tests**:	Tests**:	Tests**:	Notes
2/21/2022	AM		X	GRA-1		X		1	None	x							
2/21/2022	AM		X	GRA-2		X		1	None	x							
2/21/2022	AM		X	GRA-3		X		1	None	x							
2/21/2022	AM		X	GRA-4		X		1	None	x							
2/21/2022	AM		X	GRA-5		X		1	None	x							
2/21/2022	AM		X	GRA-6		X		1	None	x							
2/21/2022	AM		X	GRA-7		X		1	None	x							
2/21/2022	AM		X	GRA-8		X		1	None	x							
2/21/2022	AM		X	GRA-9		X		1	None	x							
2/21/2022	AM		X	GRA-10		X		1	None	x							
2/21/2022	AM		X	GRA-11		X		1	None	x							
2/21/2022	AM		X	GRA-12		X		1	None	x							
2/21/2022	AM		X	GRA-13		X		1	None	x							
2/21/2022	AM		X	GRA-14		X		1	None	x							

Sampled By: [signature] | Date/Time | Received By: | Date/Time | Laboratory Remarks:

Relinquished By: | Date/Time | Received By: | Date/Time

Relinquished By: | Date/Time | Received By: [signature] | Date/Time 2/22/22 1430 | Temp. Received:

Special Instructions:

Page 1 of 2

* updated COC
Per Rich
2/23

**Netlab Subcontracts the following tests: Radiologicals, Radon, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: **5 Days**

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

Chain of Custody Record

Project No. 2035	Project Name/Location: Asa Messer Elementary School, Proividence, RI				Matrix					Tests**							
Client: GRA																	
Report To: Richard Sullivan																	
Invoice To: Richard Sullivan																	
Date	**Time**	**Comp**	**Grab**	**Sample I.D.**	**Aqueous**	**Soil**	**Other**	**No. of Containers**	**Preservative**	PAH only (EPA 8270)							Notes
2/21/2022	PM		X	GRA-15		X		1	None	x							
2/21/2022	PM		X	GRA-16		X		1	None	x							
2/21/2022	PM		X	GRA-17		X		1	None	x							

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:	Special Instructions:
					Page 2 of 2
Relinquished By:	Date/Time	Received By:	Date/Time	Temp. Received:	
Relinquished By:	Date/Time	Received By:	Date/Time 2/21/22 14:30	Temp. Received:	

**Netlab Subcontracts the following tests: Radiologicals, Radon, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: **5 Days**

ATTACHMENT 2

Playground Site Plan and Details

1 SITE PLAN
SCALE: 1/8" = 1'-0"

STUDIO JAED
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CONSULTANT

ARCHITECT / ENGINEER SEAL

PROJECT
CITY OF PROVIDENCE
ASA MESSER
OUTDOOR CLASSROOM/ PLAY AREA
1655 WESTMINSTER ST, PROVIDENCE, RI 02909

REVISIONS		
Mark	Date	Description

SHEET TITLE
SITE PLAN

CONSTRUCTION DOCUMENTS
APRIL 1, 2022

DRAWN	CHK'D	PROJECT NO.
BMS	PC	19055

SHEET NO.
A-101

1 EQUIPMENT PLAN
SCALE: 1/8" = 1'-0"

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Email: info@StudioJAED.com

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This drawing is the property of StudioJAED and is prepared for the exclusive use of its clients at the location indicated. No other use is authorized or intended.

ARCHITECT / ENGINEER SEAL

PROJECT

CITY OF PROVIDENCE
ASA MESSER
OUTDOOR CLASSROOM/ PLAY AREA
1655 WESTMINSTER ST, PROVIDENCE, RI 02909

REVISIONS

Mark	Date	Description

SHEET TITLE

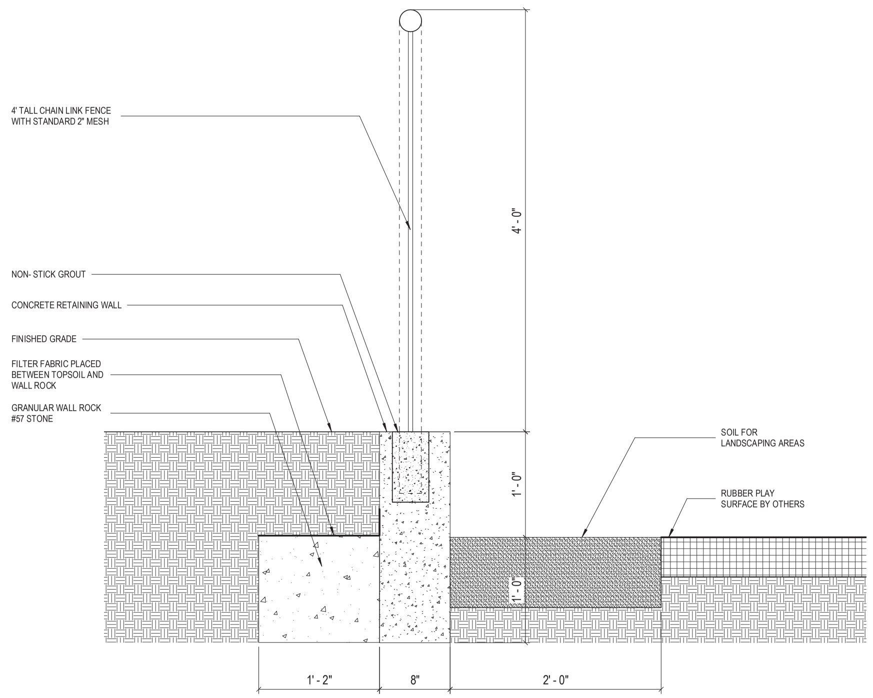
EQUIPMENT PLAN

CONSTRUCTION DOCUMENTS
APRIL 1, 2022

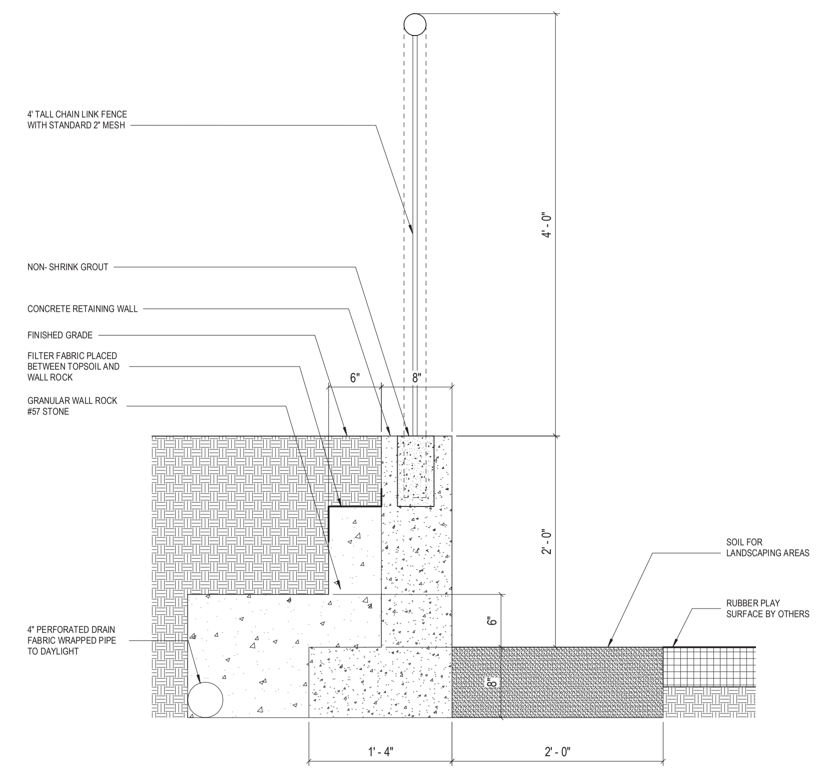
DRAWN	CHK'D	PROJECT NO.
BMS	PRC	19055

SHEET NO.

A-103



1 RETAINING WALL SECTION 1
SCALE: 1 1/2" = 1'-0"



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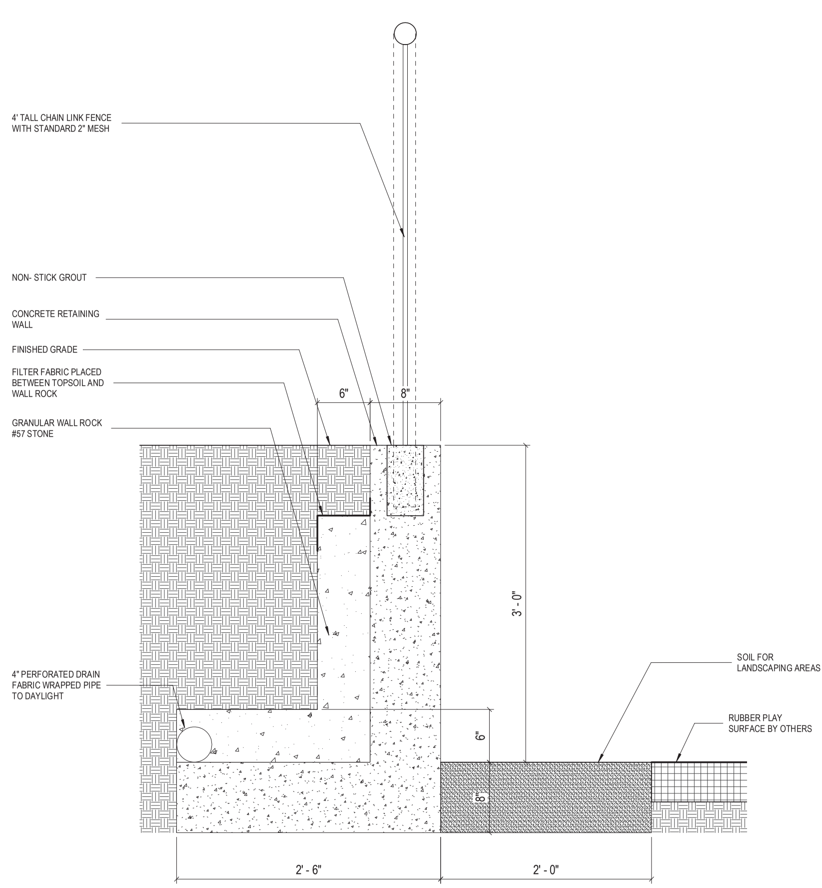
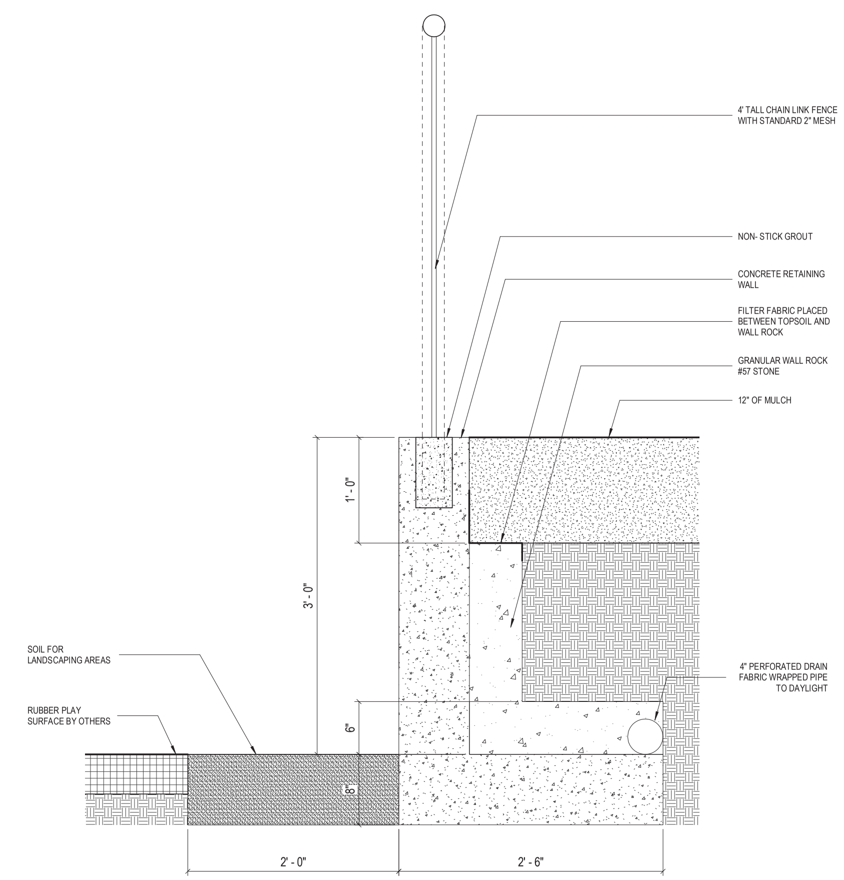
SCALE: 1 1/2" = 1'-0"



3 RETAINING WALL SECTION 3
SCALE: 1 1/2" = 1'-0"



4 RETAINING WALL SECTION 4
SCALE: 1 1/2" = 1'-0"

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PROJECT
CITY OF PROVIDENCE
ASA MESSER
OUTDOOR CLASSROOM/ PLAY AREA
1655 WESTMINSTER ST, PROVIDENCE, RI 02909

REVISIONS

Mark	Date	Description

SHEET TITLE
WALL SECTIONS

CONSTRUCTION DOCUMENTS
APRIL 1, 2022

DRAWN	CHK'D	PROJECT NO.
BMS	PC	19055

SHEET NO.
A-300

3/29/2022 9:50:28 AM

ATTACHMENT 3

Disposal Characterization Soil Analytical Report

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 2B23014
Client Project: 2035 - Providence

Report Date: 07-March-2022

Prepared for:

Rick Sullivan
Gordon R. Archibald, Inc.
200 Main Street
Pawtucket, RI 02860

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 02/21/22. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 2B23014. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
2B23014-01	GRA-W	Soil	02/21/2022	02/21/2022
2B23014-02	GRA-E	Soil	02/21/2022	02/21/2022

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

GRA-E (Lab Number: 2B23014-02)

Analysis	Method
Arsenic	EPA 6010C
Barium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Flashpoint	EPA 1010A-Mod
Free liquids	EPA 9095B
Lead	EPA 6010C
Mercury	EPA 7471B
PCBs	EPA 8082A
pH	SM4500-H-B (11)
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Total Petroleum Hydrocarbons	EPA-8100-mod
Volatile Organic Compounds	EPA 8260C

GRA-W (Lab Number: 2B23014-01)

Analysis	Method
Arsenic	EPA 6010C
Barium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Flashpoint	EPA 1010A-Mod
Free liquids	EPA 9095B
Lead	EPA 6010C
Mercury	EPA 7471B
PCBs	EPA 8082A
pH	SM4500-H-B (11)
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Total Petroleum Hydrocarbons	EPA-8100-mod
Volatile Organic Compounds	EPA 8260C

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: GRA-W

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Flashpoint	> 200		70	degrees F	03/04/22	03/04/22
Free liquids	ABSENT			P/A	02/28/22	02/28/22
pH	**8.2**			SU	02/28/22	02/28/22

Results: General Chemistry

Sample: GRA-E

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Flashpoint	> 200		70	degrees F	03/04/22	03/04/22
Free liquids	ABSENT			P/A	02/28/22	02/28/22
pH	**7.7**			SU	02/28/22	02/28/22

Results: Total Metals

Sample: GRA-W

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**2.13**		0.81	mg/kg	02/24/22	03/02/22
Barium	**18.8**		0.27	mg/kg	02/24/22	03/02/22
Cadmium	ND		0.40	mg/kg	02/24/22	03/02/22
Chromium	**2.46**		0.40	mg/kg	02/24/22	03/02/22
Lead	**3.88**		0.40	mg/kg	02/24/22	03/02/22
Mercury	ND		0.043	mg/kg	02/24/22	02/24/22
Selenium	ND		0.81	mg/kg	02/24/22	03/02/22
Silver	ND		0.81	mg/kg	02/24/22	03/02/22

Results: Total Metals

Sample: GRA-E

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**0.93**		0.88	mg/kg	02/24/22	03/02/22
Barium	**12.5**		0.29	mg/kg	02/24/22	03/02/22
Cadmium	ND		0.44	mg/kg	02/24/22	03/02/22
Chromium	**1.91**		0.44	mg/kg	02/24/22	03/02/22
Lead	**3.56**		0.44	mg/kg	02/24/22	03/02/22
Mercury	ND		0.038	mg/kg	02/24/22	02/24/22
Selenium	**0.91**		0.88	mg/kg	02/24/22	03/02/22
Silver	ND		0.88	mg/kg	02/24/22	03/02/22

Results: Volatile Organic Compounds

Sample: GRA-W

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		2510	ug/kg	02/25/22	02/25/22
Benzene	ND		27	ug/kg	02/25/22	02/25/22
Bromobenzene	ND		27	ug/kg	02/25/22	02/25/22
Bromochloromethane	ND		27	ug/kg	02/25/22	02/25/22
Bromodichloromethane	ND		27	ug/kg	02/25/22	02/25/22
Bromoform	ND		27	ug/kg	02/25/22	02/25/22
Bromomethane	ND		27	ug/kg	02/25/22	02/25/22
2-Butanone	ND		135	ug/kg	02/25/22	02/25/22
tert-Butyl alcohol	ND		135	ug/kg	02/25/22	02/25/22
sec-Butylbenzene	ND		27	ug/kg	02/25/22	02/25/22
n-Butylbenzene	ND		27	ug/kg	02/25/22	02/25/22
tert-Butylbenzene	ND		27	ug/kg	02/25/22	02/25/22
Methyl t-butyl ether (MTBE)	ND		27	ug/kg	02/25/22	02/25/22
Carbon Disulfide	ND		27	ug/kg	02/25/22	02/25/22
Carbon Tetrachloride	ND		27	ug/kg	02/25/22	02/25/22
Chlorobenzene	ND		27	ug/kg	02/25/22	02/25/22
Chloroethane	ND		27	ug/kg	02/25/22	02/25/22
Chloroform	ND		27	ug/kg	02/25/22	02/25/22
Chloromethane	ND		27	ug/kg	02/25/22	02/25/22
4-Chlorotoluene	ND		27	ug/kg	02/25/22	02/25/22
2-Chlorotoluene	ND		27	ug/kg	02/25/22	02/25/22
1,2-Dibromo-3-chloropropane (DBCP)	ND		27	ug/kg	02/25/22	02/25/22
Dibromochloromethane	ND		27	ug/kg	02/25/22	02/25/22
1,2-Dibromoethane (EDB)	ND		27	ug/kg	02/25/22	02/25/22
Dibromomethane	ND		27	ug/kg	02/25/22	02/25/22
1,2-Dichlorobenzene	ND		27	ug/kg	02/25/22	02/25/22
1,3-Dichlorobenzene	ND		27	ug/kg	02/25/22	02/25/22
1,4-Dichlorobenzene	ND		27	ug/kg	02/25/22	02/25/22
1,1-Dichloroethane	ND		27	ug/kg	02/25/22	02/25/22
1,2-Dichloroethane	ND		27	ug/kg	02/25/22	02/25/22
trans-1,2-Dichloroethene	ND		27	ug/kg	02/25/22	02/25/22
cis-1,2-Dichloroethene	ND		27	ug/kg	02/25/22	02/25/22
1,1-Dichloroethene	ND		27	ug/kg	02/25/22	02/25/22
1,2-Dichloropropane	ND		27	ug/kg	02/25/22	02/25/22
2,2-Dichloropropane	ND		27	ug/kg	02/25/22	02/25/22
cis-1,3-Dichloropropene	ND		27	ug/kg	02/25/22	02/25/22
trans-1,3-Dichloropropene	ND		27	ug/kg	02/25/22	02/25/22
1,1-Dichloropropene	ND		27	ug/kg	02/25/22	02/25/22
1,3-Dichloropropene (cis + trans)	ND		54	ug/kg	02/25/22	02/25/22
Diethyl ether	ND		135	ug/kg	02/25/22	02/25/22
1,4-Dioxane	ND		13500	ug/kg	02/25/22	02/25/22
Ethylbenzene	ND		27	ug/kg	02/25/22	02/25/22
Hexachlorobutadiene	ND		27	ug/kg	02/25/22	02/25/22
2-Hexanone	ND		135	ug/kg	02/25/22	02/25/22
Isopropylbenzene	ND		27	ug/kg	02/25/22	02/25/22
p-Isopropyltoluene	ND		27	ug/kg	02/25/22	02/25/22
Methylene Chloride	ND		1400	ug/kg	02/25/22	02/25/22
4-Methyl-2-pentanone	ND		135	ug/kg	02/25/22	02/25/22

Results: Volatile Organic Compounds (Continued)

Sample: GRA-W (Continued)

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Naphthalene	**31**		27	ug/kg	02/25/22	02/25/22
n-Propylbenzene	ND		27	ug/kg	02/25/22	02/25/22
Styrene	ND		27	ug/kg	02/25/22	02/25/22
1,1,1,2-Tetrachloroethane	ND		27	ug/kg	02/25/22	02/25/22
Tetrachloroethene	ND		27	ug/kg	02/25/22	02/25/22
Tetrahydrofuran	ND		135	ug/kg	02/25/22	02/25/22
Toluene	ND		27	ug/kg	02/25/22	02/25/22
1,2,4-Trichlorobenzene	ND		27	ug/kg	02/25/22	02/25/22
1,2,3-Trichlorobenzene	ND		27	ug/kg	02/25/22	02/25/22
1,1,2-Trichloroethane	ND		27	ug/kg	02/25/22	02/25/22
1,1,1-Trichloroethane	ND		27	ug/kg	02/25/22	02/25/22
Trichloroethene	ND		27	ug/kg	02/25/22	02/25/22
1,2,3-Trichloropropane	ND		27	ug/kg	02/25/22	02/25/22
1,3,5-Trimethylbenzene	ND		27	ug/kg	02/25/22	02/25/22
1,2,4-Trimethylbenzene	ND		27	ug/kg	02/25/22	02/25/22
Vinyl Chloride	ND		27	ug/kg	02/25/22	02/25/22
o-Xylene	ND		27	ug/kg	02/25/22	02/25/22
m&p-Xylene	ND		54	ug/kg	02/25/22	02/25/22
Total xylenes	ND		27	ug/kg	02/25/22	02/25/22
1,1,2,2-Tetrachloroethane	ND		27	ug/kg	02/25/22	02/25/22
tert-Amyl methyl ether	ND		27	ug/kg	02/25/22	02/25/22
1,3-Dichloropropane	ND		27	ug/kg	02/25/22	02/25/22
Ethyl tert-butyl ether	ND		27	ug/kg	02/25/22	02/25/22
Diisopropyl ether	ND		27	ug/kg	02/25/22	02/25/22
Trichlorofluoromethane	ND		27	ug/kg	02/25/22	02/25/22
Dichlorodifluoromethane	ND		27	ug/kg	02/25/22	02/25/22

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*97.5%*	*70-130*	02/25/22	02/25/22
1,2-Dichloroethane-d4	*101%*	*70-130*	02/25/22	02/25/22
Toluene-d8	*99.4%*	*70-130*	02/25/22	02/25/22

Results: Volatile Organic Compounds

Sample: GRA-E

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		1260	ug/kg	02/25/22	02/25/22
Benzene	ND		14	ug/kg	02/25/22	02/25/22
Bromobenzene	ND		14	ug/kg	02/25/22	02/25/22
Bromochloromethane	ND		14	ug/kg	02/25/22	02/25/22
Bromodichloromethane	ND		14	ug/kg	02/25/22	02/25/22
Bromoform	ND		14	ug/kg	02/25/22	02/25/22
Bromomethane	ND		14	ug/kg	02/25/22	02/25/22
2-Butanone	ND		68	ug/kg	02/25/22	02/25/22
tert-Butyl alcohol	ND		68	ug/kg	02/25/22	02/25/22
sec-Butylbenzene	ND		14	ug/kg	02/25/22	02/25/22
n-Butylbenzene	ND		14	ug/kg	02/25/22	02/25/22
tert-Butylbenzene	ND		14	ug/kg	02/25/22	02/25/22
Methyl t-butyl ether (MTBE)	ND		14	ug/kg	02/25/22	02/25/22
Carbon Disulfide	ND		14	ug/kg	02/25/22	02/25/22
Carbon Tetrachloride	ND		14	ug/kg	02/25/22	02/25/22
Chlorobenzene	ND		14	ug/kg	02/25/22	02/25/22
Chloroethane	ND		14	ug/kg	02/25/22	02/25/22
Chloroform	ND		14	ug/kg	02/25/22	02/25/22
Chloromethane	ND		14	ug/kg	02/25/22	02/25/22
4-Chlorotoluene	ND		14	ug/kg	02/25/22	02/25/22
2-Chlorotoluene	ND		14	ug/kg	02/25/22	02/25/22
1,2-Dibromo-3-chloropropane (DBCP)	ND		14	ug/kg	02/25/22	02/25/22
Dibromochloromethane	ND		14	ug/kg	02/25/22	02/25/22
1,2-Dibromoethane (EDB)	ND		14	ug/kg	02/25/22	02/25/22
Dibromomethane	ND		14	ug/kg	02/25/22	02/25/22
1,2-Dichlorobenzene	ND		14	ug/kg	02/25/22	02/25/22
1,3-Dichlorobenzene	ND		14	ug/kg	02/25/22	02/25/22
1,4-Dichlorobenzene	ND		14	ug/kg	02/25/22	02/25/22
1,1-Dichloroethane	ND		14	ug/kg	02/25/22	02/25/22
1,2-Dichloroethane	ND		14	ug/kg	02/25/22	02/25/22
trans-1,2-Dichloroethene	ND		14	ug/kg	02/25/22	02/25/22
cis-1,2-Dichloroethene	ND		14	ug/kg	02/25/22	02/25/22
1,1-Dichloroethene	ND		14	ug/kg	02/25/22	02/25/22
1,2-Dichloropropane	ND		14	ug/kg	02/25/22	02/25/22
2,2-Dichloropropane	ND		14	ug/kg	02/25/22	02/25/22
cis-1,3-Dichloropropene	ND		14	ug/kg	02/25/22	02/25/22
trans-1,3-Dichloropropene	ND		14	ug/kg	02/25/22	02/25/22
1,1-Dichloropropene	ND		14	ug/kg	02/25/22	02/25/22
1,3-Dichloropropene (cis + trans)	ND		27	ug/kg	02/25/22	02/25/22
Diethyl ether	ND		68	ug/kg	02/25/22	02/25/22
1,4-Dioxane	ND		6760	ug/kg	02/25/22	02/25/22
Ethylbenzene	ND		14	ug/kg	02/25/22	02/25/22
Hexachlorobutadiene	ND		14	ug/kg	02/25/22	02/25/22
2-Hexanone	ND		68	ug/kg	02/25/22	02/25/22
Isopropylbenzene	ND		14	ug/kg	02/25/22	02/25/22
p-Isopropyltoluene	ND		14	ug/kg	02/25/22	02/25/22
Methylene Chloride	ND		717	ug/kg	02/25/22	02/25/22
4-Methyl-2-pentanone	ND		68	ug/kg	02/25/22	02/25

Sample: GRA-E (Continued)

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Naphthalene	ND		14	ug/kg	02/25/22	02/25/22
n-Propylbenzene	ND		14	ug/kg	02/25/22	02/25/22
Styrene	ND		14	ug/kg	02/25/22	02/25/22
1,1,1,2-Tetrachloroethane	ND		14	ug/kg	02/25/22	02/25/22
Tetrachloroethene	ND		14	ug/kg	02/25/22	02/25/22
Tetrahydrofuran	ND		68	ug/kg	02/25/22	02/25/22
Toluene	ND		14	ug/kg	02/25/22	02/25/22
1,2,4-Trichlorobenzene	ND		14	ug/kg	02/25/22	02/25/22
1,2,3-Trichlorobenzene	ND		14	ug/kg	02/25/22	02/25/22
1,1,2-Trichloroethane	ND		14	ug/kg	02/25/22	02/25/22
1,1,1-Trichloroethane	ND		14	ug/kg	02/25/22	02/25/22
Trichloroethene	ND		14	ug/kg	02/25/22	02/25/22
1,2,3-Trichloropropane	ND		14	ug/kg	02/25/22	02/25/22
1,3,5-Trimethylbenzene	ND		14	ug/kg	02/25/22	02/25/22
1,2,4-Trimethylbenzene	ND		14	ug/kg	02/25/22	02/25/22
Vinyl Chloride	ND		14	ug/kg	02/25/22	02/25/22
o-Xylene	ND		14	ug/kg	02/25/22	02/25/22
m&p-Xylene	ND		27	ug/kg	02/25/22	02/25/22
Total xylenes	ND		14	ug/kg	02/25/22	02/25/22
1,1,2,2-Tetrachloroethane	ND		14	ug/kg	02/25/22	02/25/22
tert-Amyl methyl ether	ND		14	ug/kg	02/25/22	02/25/22
1,3-Dichloropropane	ND		14	ug/kg	02/25/22	02/25/22
Ethyl tert-butyl ether	ND		14	ug/kg	02/25/22	02/25/22
Diisopropyl ether	ND		14	ug/kg	02/25/22	02/25/22
Trichlorofluoromethane	ND		14	ug/kg	02/25/22	02/25/22
Dichlorodifluoromethane	ND		14	ug/kg	02/25/22	02/25/22

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*97.9%*	*70-130*	02/25/22	02/25/22
1,2-Dichloroethane-d4	*100%*	*70-130*	02/25/22	02/25/22
Toluene-d8	*98.1%*	*70-130*	02/25/22	02/25/22

Results: Semivolatile organic compounds

Sample: GRA-W

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		131	ug/kg	03/03/22	03/04/22
1,2-Dichlorobenzene	ND		131	ug/kg	03/03/22	03/04/22
1,3-Dichlorobenzene	ND		131	ug/kg	03/03/22	03/04/22
1,4-Dichlorobenzene	ND		131	ug/kg	03/03/22	03/04/22
Phenol	ND		131	ug/kg	03/03/22	03/04/22
2,4,5-Trichlorophenol	ND		131	ug/kg	03/03/22	03/04/22
2,4,6-Trichlorophenol	ND		131	ug/kg	03/03/22	03/04/22
2,4-Dichlorophenol	ND		131	ug/kg	03/03/22	03/04/22
2,4-Dimethylphenol	ND		333	ug/kg	03/03/22	03/04/22
2,4-Dinitrophenol	ND		333	ug/kg	03/03/22	03/04/22
2,4-Dinitrotoluene	ND		131	ug/kg	03/03/22	03/04/22
2,6-Dinitrotoluene	ND		131	ug/kg	03/03/22	03/04/22
2-Chloronaphthalene	ND		131	ug/kg	03/03/22	03/04/22
2-Chlorophenol	ND		131	ug/kg	03/03/22	03/04/22
2-Methylnaphthalene	ND		131	ug/kg	03/03/22	03/04/22
Nitrobenzene	ND		131	ug/kg	03/03/22	03/04/22
2-Methylphenol	ND		131	ug/kg	03/03/22	03/04/22
2-Nitroaniline	ND		131	ug/kg	03/03/22	03/04/22
2-Nitrophenol	ND		333	ug/kg	03/03/22	03/04/22
3,3'-Dichlorobenzidine	ND		333	ug/kg	03/03/22	03/04/22
3-Nitroaniline	ND		131	ug/kg	03/03/22	03/04/22
4,6-Dinitro-2-methylphenol	ND		333	ug/kg	03/03/22	03/04/22
4-Bromophenyl phenyl ether	ND		131	ug/kg	03/03/22	03/04/22
4-Chloro-3-methylphenol	ND		131	ug/kg	03/03/22	03/04/22
4-Chloroaniline	ND		131	ug/kg	03/03/22	03/04/22
4-Chlorophenyl phenyl ether	ND		131	ug/kg	03/03/22	03/04/22
4-Nitroaniline	ND		131	ug/kg	03/03/22	03/04/22
4-Nitrophenol	ND		333	ug/kg	03/03/22	03/04/22
Acenaphthene	ND		131	ug/kg	03/03/22	03/04/22
Acenaphthylene	ND		131	ug/kg	03/03/22	03/04/22
Aniline	ND		131	ug/kg	03/03/22	03/04/22
Anthracene	ND		131	ug/kg	03/03/22	03/04/22
Benzo(a)anthracene	**374**		131	ug/kg	03/03/22	03/04/22
Benzo(a)pyrene	**396**		131	ug/kg	03/03/22	03/04/22
Benzo(b)fluoranthene	**512**		131	ug/kg	03/03/22	03/04/22
Benzo(g,h,i)perylene	**295**		131	ug/kg	03/03/22	03/04/22
Benzo(k)fluoranthene	**185**		131	ug/kg	03/03/22	03/04/22
Benzoic acid	ND		1010	ug/kg	03/03/22	03/04/22
Biphenyl	ND		40	ug/kg	03/03/22	03/04/22
Bis(2-chloroethoxy)methane	ND		131	ug/kg	03/03/22	03/04/22
Bis(2-chloroethyl)ether	ND		131	ug/kg	03/03/22	03/04/22
Bis(2-chloroisopropyl)ether	ND		131	ug/kg	03/03/22	03/04/22
Bis(2-ethylhexyl)phthalate	ND		404	ug/kg	03/03/22	03/04/22
Butyl benzyl phthalate	ND		131	ug/kg	03/03/22	03/04/22
Chrysene	**372**		131	ug/kg	03/03/22	03/04/22
Di(n)octyl phthalate	ND		202	ug/kg	03/03/22	03/04/22
Dibenz(a,h)anthracene	ND		131	ug/kg	03/03/22	03/04/22
Dibenzofuran	ND		131	ug/kg	03/03/22	03/04/22

Results: Semivolatile organic compounds (Continued)

Sample: GRA-W (Continued)

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		131	ug/kg	03/03/22	03/04/22
Dimethyl phthalate	ND		333	ug/kg	03/03/22	03/04/22
Di-n-butylphthalate	ND		202	ug/kg	03/03/22	03/04/22
Fluoranthene	**837**		131	ug/kg	03/03/22	03/04/22
Fluorene	ND		131	ug/kg	03/03/22	03/04/22
Hexachlorobenzene	ND		131	ug/kg	03/03/22	03/04/22
Hexachlorobutadiene	ND		131	ug/kg	03/03/22	03/04/22
Hexachlorocyclopentadiene	ND		333	ug/kg	03/03/22	03/04/22
Hexachloroethane	ND		131	ug/kg	03/03/22	03/04/22
Indeno(1,2,3-cd)pyrene	**286**		131	ug/kg	03/03/22	03/04/22
Isophorone	ND		131	ug/kg	03/03/22	03/04/22
Naphthalene	ND		131	ug/kg	03/03/22	03/04/22
N-Nitrosodimethylamine	ND		131	ug/kg	03/03/22	03/04/22
N-Nitrosodi-n-propylamine	ND		131	ug/kg	03/03/22	03/04/22
N-Nitrosodiphenylamine	ND		131	ug/kg	03/03/22	03/04/22
Pentachlorophenol	ND		333	ug/kg	03/03/22	03/04/22
Phenanthrene	**387**		131	ug/kg	03/03/22	03/04/22
Pyrene	**775**		131	ug/kg	03/03/22	03/04/22
m&p-Cresol	ND		263	ug/kg	03/03/22	03/04/22
Pyridine	ND		131	ug/kg	03/03/22	03/04/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*92.4%*	*30-126*	03/03/22	03/04/22
p-Terphenyl-d14	*102%*	*47-130*	03/03/22	03/04/22
2-Fluorobiphenyl	*90.8%*	*34-130*	03/03/22	03/04/22
Phenol-d6	*83.9%*	*30-130*	03/03/22	03/04/22
2,4,6-Tribromophenol	*96.0%*	*30-130*	03/03/22	03/04/22
2-Fluorophenol	*86.4%*	*30-130*	03/03/22	03/04/22

Results: Semivolatile organic compounds

Sample: GRA-E

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		128	ug/kg	03/03/22	03/04/22
1,2-Dichlorobenzene	ND		128	ug/kg	03/03/22	03/04/22
1,3-Dichlorobenzene	ND		128	ug/kg	03/03/22	03/04/22
1,4-Dichlorobenzene	ND		128	ug/kg	03/03/22	03/04/22
Phenol	ND		128	ug/kg	03/03/22	03/04/22
2,4,5-Trichlorophenol	ND		128	ug/kg	03/03/22	03/04/22
2,4,6-Trichlorophenol	ND		128	ug/kg	03/03/22	03/04/22
2,4-Dichlorophenol	ND		128	ug/kg	03/03/22	03/04/22
2,4-Dimethylphenol	ND		325	ug/kg	03/03/22	03/04/22
2,4-Dinitrophenol	ND		325	ug/kg	03/03/22	03/04/22
2,4-Dinitrotoluene	ND		128	ug/kg	03/03/22	03/04/22
2,6-Dinitrotoluene	ND		128	ug/kg	03/03/22	03/04/22
2-Chloronaphthalene	ND		128	ug/kg	03/03/22	03/04/22
2-Chlorophenol	ND		128	ug/kg	03/03/22	03/04/22
2-Methylnaphthalene	ND		128	ug/kg	03/03/22	03/04/22
Nitrobenzene	ND		128	ug/kg	03/03/22	03/04/22
2-Methylphenol	ND		128	ug/kg	03/03/22	03/04/22
2-Nitroaniline	ND		128	ug/kg	03/03/22	03/04/22
2-Nitrophenol	ND		325	ug/kg	03/03/22	03/04/22
3,3'-Dichlorobenzidine	ND		325	ug/kg	03/03/22	03/04/22
3-Nitroaniline	ND		128	ug/kg	03/03/22	03/04/22
4,6-Dinitro-2-methylphenol	ND		325	ug/kg	03/03/22	03/04/22
4-Bromophenyl phenyl ether	ND		128	ug/kg	03/03/22	03/04/22
4-Chloro-3-methylphenol	ND		128	ug/kg	03/03/22	03/04/22
4-Chloroaniline	ND		128	ug/kg	03/03/22	03/04/22
4-Chlorophenyl phenyl ether	ND		128	ug/kg	03/03/22	03/04/22
4-Nitroaniline	ND		128	ug/kg	03/03/22	03/04/22
4-Nitrophenol	ND		325	ug/kg	03/03/22	03/04/22
Acenaphthene	ND		128	ug/kg	03/03/22	03/04/22
Acenaphthylene	ND		128	ug/kg	03/03/22	03/04/22
Aniline	ND		128	ug/kg	03/03/22	03/04/22
Anthracene	ND		128	ug/kg	03/03/22	03/04/22
Benzo(a)anthracene	ND		128	ug/kg	03/03/22	03/04/22
Benzo(a)pyrene	ND		128	ug/kg	03/03/22	03/04/22
Benzo(b)fluoranthene	ND		128	ug/kg	03/03/22	03/04/22
Benzo(g,h,i)perylene	ND		128	ug/kg	03/03/22	03/04/22
Benzo(k)fluoranthene	ND		128	ug/kg	03/03/22	03/04/22
Benzoic acid	ND		985	ug/kg	03/03/22	03/04/22
Biphenyl	ND		39	ug/kg	03/03/22	03/04/22
Bis(2-chloroethoxy)methane	ND		128	ug/kg	03/03/22	03/04/22
Bis(2-chloroethyl)ether	ND		128	ug/kg	03/03/22	03/04/22
Bis(2-chloroisopropyl)ether	ND		128	ug/kg	03/03/22	03/04/22
Bis(2-ethylhexyl)phthalate	ND		394	ug/kg	03/03/22	03/04/22
Butyl benzyl phthalate	ND		128	ug/kg	03/03/22	03/04/22
Chrysene	ND		128	ug/kg	03/03/22	03/04/22
Di(n)octyl phthalate	ND		197	ug/kg	03/03/22	03/04/22
Dibenz(a,h)anthracene	ND		128	ug/kg	03/03/22	03/04/22
Dibenzofuran	ND		128	ug/kg	03/03/22	03/04/22

Results: Semivolatile organic compounds (Continued)

Sample: GRA-E (Continued)

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		128	ug/kg	03/03/22	03/04/22
Dimethyl phthalate	ND		325	ug/kg	03/03/22	03/04/22
Di-n-butylphthalate	ND		197	ug/kg	03/03/22	03/04/22
Fluoranthene	ND		128	ug/kg	03/03/22	03/04/22
Fluorene	ND		128	ug/kg	03/03/22	03/04/22
Hexachlorobenzene	ND		128	ug/kg	03/03/22	03/04/22
Hexachlorobutadiene	ND		128	ug/kg	03/03/22	03/04/22
Hexachlorocyclopentadiene	ND		325	ug/kg	03/03/22	03/04/22
Hexachloroethane	ND		128	ug/kg	03/03/22	03/04/22
Indeno(1,2,3-cd)pyrene	ND		128	ug/kg	03/03/22	03/04/22
Isophorone	ND		128	ug/kg	03/03/22	03/04/22
Naphthalene	ND		128	ug/kg	03/03/22	03/04/22
N-Nitrosodimethylamine	ND		128	ug/kg	03/03/22	03/04/22
N-Nitrosodi-n-propylamine	ND		128	ug/kg	03/03/22	03/04/22
N-Nitrosodiphenylamine	ND		128	ug/kg	03/03/22	03/04/22
Pentachlorophenol	ND		325	ug/kg	03/03/22	03/04/22
Phenanthrene	ND		128	ug/kg	03/03/22	03/04/22
Pyrene	ND		128	ug/kg	03/03/22	03/04/22
m&p-Cresol	ND		256	ug/kg	03/03/22	03/04/22
Pyridine	ND		128	ug/kg	03/03/22	03/04/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*89.7%*	*30-126*	03/03/22	03/04/22
p-Terphenyl-d14	*106%*	*47-130*	03/03/22	03/04/22
2-Fluorobiphenyl	*89.8%*	*34-130*	03/03/22	03/04/22
Phenol-d6	*85.1%*	*30-130*	03/03/22	03/04/22
2,4,6-Tribromophenol	*89.5%*	*30-130*	03/03/22	03/04/22
2-Fluorophenol	*87.1%*	*30-130*	03/03/22	03/04/22

Results: Polychlorinated Biphenyls (PCBs)

Sample: GRA-W

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1221	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1232	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1242	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1248	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1254	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1260	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1262	ND		66	ug/kg	03/02/22	03/03/22
Aroclor-1268	ND		66	ug/kg	03/02/22	03/03/22
PCBs (Total)	ND		66	ug/kg	03/02/22	03/03/22

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*83.1%*	*36.2-130*	03/02/22	03/03/22
Decachlorobiphenyl (DCBP)	*94.0%*	*43.3-130*	03/02/22	03/03/22

Results: Polychlorinated Biphenyls (PCBs)

Sample: GRA-E

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1221	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1232	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1242	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1248	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1254	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1260	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1262	ND		67	ug/kg	03/02/22	03/03/22
Aroclor-1268	ND		67	ug/kg	03/02/22	03/03/22
PCBs (Total)	ND		67	ug/kg	03/02/22	03/03/22

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*94.6%*	*36.2-130*	03/02/22	03/03/22
Decachlorobiphenyl (DCBP)	*87.7%*	*43.3-130*	03/02/22	03/03/22

Results: Total Petroleum Hydrocarbons

Sample: GRA-W

Lab Number: 2B23014-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Petroleum Hydrocarbons	**45**		27	mg/kg	02/26/22	03/01/22
Surrogate(s)	Recovery%		Limits			
Chlorooctadecane	*100%*		*56.5-114*		02/26/22	03/01/22

Results: Total Petroleum Hydrocarbons

Sample: GRA-E

Lab Number: 2B23014-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Petroleum Hydrocarbons	ND		27	mg/kg	02/26/22	03/01/22
Surrogate(s)	Recovery%		Limits			
Chlorooctadecane	*72.4%*		*56.5-114*		02/26/22	03/01/22

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1207 - pH										
LCS (B2B1207-BS1)					Prepared & Analyzed: 02/28/22					
pH	7.0			SU	7.00		100	0-200		
LCS (B2B1207-BS2)					Prepared & Analyzed: 02/28/22					
pH	7.1			SU	7.00		101	0-200		
Duplicate (B2B1207-DUP1)		Source: 2B22010-21			Prepared & Analyzed: 02/28/22					
pH	7.1			SU		7.2			0.420	200
Batch: B2C0163 - Flashpoint-EPA 1010A-Mod										
LCS (B2C0163-BS1)					Prepared & Analyzed: 03/02/22					
Flashpoint	84		70	degrees F	80.0		105	90-110		
Duplicate (B2C0163-DUP1)		Source: 2B23030-05			Prepared & Analyzed: 03/02/22					
Flashpoint	> 200		70	degrees F		ND				20

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1084 - Metals Cold-Vapor Mercury										
Blank (B2B1084-BLK1)					Prepared & Analyzed: 02/24/22					
Mercury	ND		0.035	mg/kg						
LCS (B2B1084-BS1)					Prepared & Analyzed: 02/24/22					
Mercury	0.070		0.035	mg/kg	0.0714		98.0	93-114		
LCS Dup (B2B1084-BSD1)					Prepared & Analyzed: 02/24/22					
Mercury	0.070		0.035	mg/kg	0.0714		98.0	93-114	0.00	200
Matrix Spike (B2B1084-MS1)		Source: 2B23030-05			Prepared: 02/24/22 Analyzed: 03/01/22					
Mercury	0.192		0.053	mg/kg dry	0.108	0.090	93.8	80-120		
Matrix Spike Dup (B2B1084-MSD1)		Source: 2B23030-05			Prepared: 02/24/22 Analyzed: 03/01/22					
Mercury	0.193		0.053	mg/kg dry	0.108	0.090	95.3	80-120	0.527	20
Batch: B2B1093 - Metals Digestion Soils										
Blank (B2B1093-BLK1)					Prepared: 02/24/22 Analyzed: 03/01/22					
Selenium	ND		1.00	mg/kg						
Barium	ND		0.33	mg/kg						
Chromium	ND		0.50	mg/kg						
Lead	ND		0.50	mg/kg						
Cadmium	ND		0.50	mg/kg						
Arsenic	ND		1.00	mg/kg						
Silver	ND		1.00	mg/kg						
LCS (B2B1093-BS1)					Prepared: 02/24/22 Analyzed: 03/01/22					
Lead	99.2		0.50	mg/kg	100		99.2	85-115		
Chromium	95.7		0.50	mg/kg	100		95.7	85-115		
Cadmium	94.5		0.50	mg/kg	100		94.5	85-115		
Selenium	22.0		1.00	mg/kg	20.0		110	85-115		
Silver	38.5		1.00	mg/kg	40.0		96.3	85-115		
Barium	96.4		0.33	mg/kg	100		96.4	85-115		
Arsenic	20.2		1.00	mg/kg	20.0		101	85-115		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1093 - Metals Digestion Soils (Continued)										
LCS Dup (B2B1093-BSD1)					Prepared: 02/24/22 Analyzed: 03/01/22					
Lead	97.2		0.50	mg/kg	100		97.2	85-115	2.03	200
Silver	38.4		1.00	mg/kg	40.0		95.9	85-115	0.400	200
Selenium	21.4		1.00	mg/kg	20.0		107	85-115	2.62	200
Arsenic	19.8		1.00	mg/kg	20.0		98.9	85-115	1.89	200
Chromium	95.1		0.50	mg/kg	100		95.1	85-115	0.630	200
Barium	95.3		0.33	mg/kg	100		95.3	85-115	1.12	200
Cadmium	93.9		0.50	mg/kg	100		93.9	85-115	0.724	200
Matrix Spike (B2B1093-MS2)		Source: 2B23030-05			Prepared: 02/24/22 Analyzed: 03/01/22					
Selenium	ND		0.72	mg/kg dry	14.5	ND		75-125		
Arsenic	16.0		0.72	mg/kg dry	14.5	3.16	88.3	75-125		
Barium	174		0.24	mg/kg dry	72.4	54.2	166	75-125		
Silver	22.4		0.72	mg/kg dry	29.0	ND	77.5	75-125		
Lead	149		0.36	mg/kg dry	72.4	94.1	76.1	75-125		
Cadmium	68.7		0.36	mg/kg dry	72.4	1.66	92.6	75-125		
Chromium	103		0.36	mg/kg dry	72.4	38.3	89.7	75-125		
Matrix Spike Dup (B2B1093-MSD2)		Source: 2B23030-05			Prepared: 02/24/22 Analyzed: 03/01/22					
Silver	27.9		0.80	mg/kg dry	32.1	ND	86.7	75-125	11.3	20
Lead	151		0.40	mg/kg dry	80.4	94.1	70.8	75-125	1.21	20
Cadmium	78.0		0.40	mg/kg dry	80.4	1.66	95.0	75-125	12.7	20
Barium	137		0.27	mg/kg dry	80.4	54.2	103	75-125	23.9	20
Chromium	122		0.40	mg/kg dry	80.4	38.3	105	75-125	16.9	20
Arsenic	17.7		0.80	mg/kg dry	16.1	3.16	90.7	75-125	2.66	20
Selenium	ND		0.80	mg/kg dry	16.1	ND		75-125		20

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1220 - Purge-Trap										
Blank (B2B1220-BLK1)					Prepared & Analyzed: 02/25/22					
Acetone	ND		250	ug/kg						
Benzene	ND		50	ug/kg						
Bromobenzene	ND		50	ug/kg						
Bromochloromethane	ND		50	ug/kg						
Bromodichloromethane	ND		50	ug/kg						
Bromoform	ND		50	ug/kg						
Bromomethane	ND		50	ug/kg						
2-Butanone	ND		250	ug/kg						
tert-Butyl alcohol	ND		250	ug/kg						
sec-Butylbenzene	ND		50	ug/kg						
n-Butylbenzene	ND		50	ug/kg						
tert-Butylbenzene	ND		50	ug/kg						
Methyl t-butyl ether (MTBE)	ND		50	ug/kg						
Carbon Disulfide	ND		50	ug/kg						
Carbon Tetrachloride	ND		50	ug/kg						
Chlorobenzene	ND		50	ug/kg						
Chloroethane	ND		50	ug/kg						
Chloroform	ND		50	ug/kg						
Chloromethane	ND		50	ug/kg						
4-Chlorotoluene	ND		50	ug/kg						
2-Chlorotoluene	ND		50	ug/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		50	ug/kg						
Dibromochloromethane	ND		50	ug/kg						
1,2-Dibromoethane (EDB)	ND		50	ug/kg						
Dibromomethane	ND		50	ug/kg						
1,2-Dichlorobenzene	ND		50	ug/kg						
1,3-Dichlorobenzene	ND		50	ug/kg						
1,4-Dichlorobenzene	ND		50	ug/kg						
1,1-Dichloroethane	ND		50	ug/kg						
1,2-Dichloroethane	ND		50	ug/kg						
trans-1,2-Dichloroethene	ND		50	ug/kg						
cis-1,2-Dichloroethene	ND		50	ug/kg						
1,1-Dichloroethene	ND		50	ug/kg						
1,2-Dichloropropane	ND		50	ug/kg						
2,2-Dichloropropane	ND		50	ug/kg						
cis-1,3-Dichloropropene	ND		50	ug/kg						
trans-1,3-Dichloropropene	ND		50	ug/kg						
1,1-Dichloropropene	ND		50	ug/kg						
1,3-Dichloropropene (cis + trans)	ND		100	ug/kg						
Diethyl ether	ND		250	ug/kg						
1,4-Dioxane	ND		25000	ug/kg						
Ethylbenzene	ND		50	ug/kg						
Hexachlorobutadiene	ND		50	ug/kg						
2-Hexanone	ND		250	ug/kg						
Isopropylbenzene	ND		50	ug/kg						
p-Isopropyltoluene	ND		50	ug/kg						
Methylene Chloride	ND		100	ug/kg						
4-Methyl-2-pentanone	ND		250	ug/kg						
Naphthalene	ND		50	ug/kg						
n-Propylbenzene	ND		50	ug/kg						
Styrene	ND		50	ug/kg						
1,1,1,2-Tetrachloroethane	ND		50	ug/kg						
Tetrachloroethene	ND		50	ug/kg						
Tetrahydrofuran	ND		250	ug/kg						
Toluene	ND		50	ug/kg						
1,2,4-Trichlorobenzene	ND		50	ug/kg						
1,2,3-Trichlorobenzene	ND		50	ug/kg						

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1220 - Purge-Trap (Continued)										
Blank (B2B1220-BLK1)					Prepared & Analyzed: 02/25/22					
1,1,2-Trichloroethane	ND		50	ug/kg						
1,1,1-Trichloroethane	ND		50	ug/kg						
Trichloroethene	ND		50	ug/kg						
1,2,3-Trichloropropane	ND		50	ug/kg						
1,3,5-Trimethylbenzene	ND		50	ug/kg						
1,2,4-Trimethylbenzene	ND		50	ug/kg						
Vinyl Chloride	ND		50	ug/kg						
o-Xylene	ND		50	ug/kg						
m&p-Xylene	ND		100	ug/kg						
Total xylenes	ND		50	ug/kg						
1,1,2,2-Tetrachloroethane	ND		50	ug/kg						
tert-Amyl methyl ether	ND		50	ug/kg						
1,3-Dichloropropane	ND		50	ug/kg						
Ethyl tert-butyl ether	ND		50	ug/kg						
Diisopropyl ether	ND		50	ug/kg						
Trichlorofluoromethane	ND		50	ug/kg						
Dichlorodifluoromethane	ND		50	ug/kg						
Surrogate: 4-Bromofluorobenzene			*48.5*	ug/l	*50.0*		*97.0*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*48.5*	ug/l	*50.0*		*97.0*	*70-130*		
Surrogate: Toluene-d8			*50.4*	ug/l	*50.0*		*101*	*70-130*		
LCS (B2B1220-BS1)					Prepared & Analyzed: 02/25/22					
Acetone	171			ug/l	50.0		342	70-130		
Benzene	51			ug/l	50.0		101	70-130		
Bromobenzene	47			ug/l	50.0		95.0	70-130		
Bromochloromethane	44			ug/l	50.0		87.1	70-130		
Bromodichloromethane	49			ug/l	50.0		97.6	70-130		
Bromoform	41			ug/l	50.0		82.7	70-130		
Bromomethane	48			ug/l	50.0		96.3	70-130		
2-Butanone	62			ug/l	50.0		124	70-130		
tert-Butyl alcohol	55			ug/l	50.0		109	70-130		
sec-Butylbenzene	50			ug/l	50.0		99.8	70-130		
n-Butylbenzene	51			ug/l	50.0		101	70-130		
tert-Butylbenzene	47			ug/l	50.0		94.3	70-130		
Methyl t-butyl ether (MTBE)	51			ug/l	50.0		103	70-130		
Carbon Disulfide	50			ug/l	50.0		101	70-130		
Carbon Tetrachloride	42			ug/l	50.0		83.6	70-130		
Chlorobenzene	47			ug/l	50.0		94.6	70-130		
Chloroethane	63			ug/l	50.0		127	70-130		
Chloroform	46			ug/l	50.0		92.8	70-130		
Chloromethane	57			ug/l	50.0		115	70-130		
4-Chlorotoluene	49			ug/l	50.0		98.8	70-130		
2-Chlorotoluene	49			ug/l	50.0		97.1	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	36			ug/l	50.0		71.7	70-130		
Dibromochloromethane	46			ug/l	50.0		91.0	70-130		
1,2-Dibromoethane (EDB)	51			ug/l	50.0		102	70-130		
Dibromomethane	50			ug/l	50.0		101	70-130		
1,2-Dichlorobenzene	47			ug/l	50.0		93.3	70-130		
1,3-Dichlorobenzene	48			ug/l	50.0		96.7	70-130		
1,4-Dichlorobenzene	47			ug/l	50.0		93.8	70-130		
1,1-Dichloroethane	50			ug/l	50.0		100	70-130		
1,2-Dichloroethane	52			ug/l	50.0		103	70-130		
trans-1,2-Dichloroethene	44			ug/l	50.0		88.8	70-130		
cis-1,2-Dichloroethene	42			ug/l	50.0		84.1	70-130		
1,1-Dichloroethene	48			ug/l	50.0		96.6	70-130		
1,2-Dichloropropane	54			ug/l	50.0		107	70-130		
2,2-Dichloropropane	59			ug/l	50.0		119	70-130		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1220 - Purge-Trap (Continued)										
LCS (B2B1220-BS1)					Prepared & Analyzed: 02/25/22					
cis-1,3-Dichloropropene	53			ug/l	50.0		106	70-130		
trans-1,3-Dichloropropene	55			ug/l	50.0		110	70-130		
1,1-Dichloropropene	48			ug/l	50.0		96.7	70-130		
Diethyl ether	52			ug/l	50.0		105	70-130		
1,4-Dioxane	274			ug/l	250		110	0-200		
Ethylbenzene	47			ug/l	50.0		93.8	70-130		
Hexachlorobutadiene	32			ug/l	50.0		64.5	70-130		
2-Hexanone	58			ug/l	50.0		116	70-130		
Isopropylbenzene	47			ug/l	50.0		94.3	70-130		
p-Isopropyltoluene	51			ug/l	50.0		102	70-130		
Methylene Chloride	72			ug/l	50.0		145	60-140		
4-Methyl-2-pentanone	59			ug/l	50.0		118	70-130		
Naphthalene	27			ug/l	50.0		53.7	70-130		
n-Propylbenzene	52			ug/l	50.0		103	70-130		
Styrene	49			ug/l	50.0		98.0	70-130		
1,1,1,2-Tetrachloroethane	46			ug/l	50.0		92.0	70-130		
Tetrachloroethene	47			ug/l	50.0		93.5	70-130		
Tetrahydrofuran	51			ug/l	50.0		102	70-130		
Toluene	48			ug/l	50.0		95.6	70-130		
1,2,4-Trichlorobenzene	36			ug/l	50.0		72.9	70-130		
1,2,3-Trichlorobenzene	37			ug/l	50.0		73.3	70-130		
1,1,2-Trichloroethane	51			ug/l	50.0		102	70-130		
1,1,1-Trichloroethane	47			ug/l	50.0		94.1	70-130		
Trichloroethene	45			ug/l	50.0		90.5	70-130		
1,2,3-Trichloropropane	50			ug/l	50.0		100	70-130		
1,3,5-Trimethylbenzene	49			ug/l	50.0		98.8	70-130		
1,2,4-Trimethylbenzene	51			ug/l	50.0		102	70-130		
Vinyl Chloride	53			ug/l	50.0		105	70-130		
o-Xylene	48			ug/l	50.0		96.9	70-130		
m&p-Xylene	94			ug/l	100		93.7	70-130		
1,1,2,2-Tetrachloroethane	46			ug/l	50.0		92.2	70-130		
tert-Amyl methyl ether	54			ug/l	50.0		107	70-130		
1,3-Dichloropropane	52			ug/l	50.0		105	70-130		
Ethyl tert-butyl ether	55			ug/l	50.0		109	70-130		
Diisopropyl ether	62			ug/l	50.0		124	70-130		
Trichlorofluoromethane	41			ug/l	50.0		81.7	70-130		
Dichlorodifluoromethane	50			ug/l	50.0		100	70-130		
Surrogate: 4-Bromofluorobenzene			*51.1*	ug/l	*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*55.8*	ug/l	*50.0*		*112*	*70-130*		
Surrogate: Toluene-d8			*50.7*	ug/l	*50.0*		*101*	*70-130*		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1220 - Purge-Trap (Continued)										
LCS Dup (B2B1220-BSD1)					Prepared & Analyzed: 02/25/22					
Acetone	162			ug/l	50.0		325	70-130	5.20	30
Benzene	48			ug/l	50.0		96.7	70-130	4.45	30
Bromobenzene	47			ug/l	50.0		94.8	70-130	0.190	30
Bromochloromethane	44			ug/l	50.0		87.3	70-130	0.161	30
Bromodichloromethane	48			ug/l	50.0		95.5	70-130	2.18	30
Bromoform	42			ug/l	50.0		83.0	70-130	0.338	30
Bromomethane	51			ug/l	50.0		102	70-130	6.16	30
2-Butanone	61			ug/l	50.0		121	70-130	2.46	30
tert-Butyl alcohol	53			ug/l	50.0		107	70-130	2.11	30
sec-Butylbenzene	49			ug/l	50.0		98.1	70-130	1.66	30
n-Butylbenzene	50			ug/l	50.0		100	70-130	0.892	30
tert-Butylbenzene	46			ug/l	50.0		92.9	70-130	1.50	30
Methyl t-butyl ether (MTBE)	51			ug/l	50.0		103	70-130	0.0779	30
Carbon Disulfide	50			ug/l	50.0		99.7	70-130	1.02	30
Carbon Tetrachloride	42			ug/l	50.0		84.2	70-130	0.739	30
Chlorobenzene	47			ug/l	50.0		94.4	70-130	0.169	30
Chloroethane	88			ug/l	50.0		176	70-130	32.5	30
Chloroform	47			ug/l	50.0		93.5	70-130	0.773	30
Chloromethane	55			ug/l	50.0		109	70-130	5.12	30
4-Chlorotoluene	49			ug/l	50.0		98.1	70-130	0.732	30
2-Chlorotoluene	48			ug/l	50.0		95.7	70-130	1.45	30
1,2-Dibromo-3-chloropropane (DBCP)	37			ug/l	50.0		74.7	70-130	4.04	30
Dibromochloromethane	42			ug/l	50.0		84.3	70-130	7.71	30
1,2-Dibromoethane (EDB)	49			ug/l	50.0		97.6	70-130	4.33	30
Dibromomethane	50			ug/l	50.0		101	70-130	0.0991	30
1,2-Dichlorobenzene	47			ug/l	50.0		94.0	70-130	0.748	30
1,3-Dichlorobenzene	47			ug/l	50.0		95.0	70-130	1.84	30
1,4-Dichlorobenzene	47			ug/l	50.0		94.3	70-130	0.468	30
1,1-Dichloroethane	51			ug/l	50.0		102	70-130	1.84	30
1,2-Dichloroethane	51			ug/l	50.0		102	70-130	0.878	30
trans-1,2-Dichloroethene	46			ug/l	50.0		91.5	70-130	3.04	30
cis-1,2-Dichloroethene	41			ug/l	50.0		82.9	70-130	1.41	30
1,1-Dichloroethene	47			ug/l	50.0		93.9	70-130	2.88	30
1,2-Dichloropropane	52			ug/l	50.0		105	70-130	2.00	30
2,2-Dichloropropane	57			ug/l	50.0		114	70-130	4.26	30
cis-1,3-Dichloropropene	51			ug/l	50.0		103	70-130	3.50	30
trans-1,3-Dichloropropene	53			ug/l	50.0		106	70-130	3.83	30
1,1-Dichloropropene	47			ug/l	50.0		94.4	70-130	2.39	30
Diethyl ether	53			ug/l	50.0		105	70-130	0.781	30
1,4-Dioxane	270			ug/l	250		108	0-200	1.42	40
Ethylbenzene	47			ug/l	50.0		93.0	70-130	0.856	30
Hexachlorobutadiene	34			ug/l	50.0		68.3	70-130	5.66	30
2-Hexanone	60			ug/l	50.0		119	70-130	3.10	30
Isopropylbenzene	47			ug/l	50.0		93.8	70-130	0.532	30
p-Isopropyltoluene	50			ug/l	50.0		100	70-130	1.31	30
Methylene Chloride	75			ug/l	50.0		151	60-140	3.98	30
4-Methyl-2-pentanone	59			ug/l	50.0		118	70-130	0.0338	30
Naphthalene	31			ug/l	50.0		61.9	70-130	14.2	30
n-Propylbenzene	51			ug/l	50.0		101	70-130	2.00	30
Styrene	49			ug/l	50.0		98.9	70-130	0.934	30
1,1,1,2-Tetrachloroethane	47			ug/l	50.0		93.4	70-130	1.53	30
Tetrachloroethene	46			ug/l	50.0		92.3	70-130	1.27	30
Tetrahydrofuran	50			ug/l	50.0		101	70-130	1.45	30
Toluene	46			ug/l	50.0		91.3	70-130	4.64	30
1,2,4-Trichlorobenzene	38			ug/l	50.0		76.1	70-130	4.32	30
1,2,3-Trichlorobenzene	38			ug/l	50.0		75.2	70-130	2.56	30
1,1,2-Trichloroethane	49			ug/l	50.0		97.5	70-130		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1220 - Purge-Trap (Continued)										
LCS Dup (B2B1220-BSD1)					Prepared & Analyzed: 02/25/22					
1,1,1-Trichloroethane	46			ug/l	50.0		91.1	70-130	3.22	30
Trichloroethene	43			ug/l	50.0		86.3	70-130	4.75	30
1,2,3-Trichloropropane	50			ug/l	50.0		100	70-130	0.399	30
1,3,5-Trimethylbenzene	49			ug/l	50.0		97.6	70-130	1.20	30
1,2,4-Trimethylbenzene	50			ug/l	50.0		99.8	70-130	2.69	30
Vinyl Chloride	52			ug/l	50.0		105	70-130	0.323	30
o-Xylene	48			ug/l	50.0		95.6	70-130	1.41	30
m&p-Xylene	92			ug/l	100		92.2	70-130	1.63	30
1,1,2,2-Tetrachloroethane	46			ug/l	50.0		92.4	70-130	0.173	30
tert-Amyl methyl ether	54			ug/l	50.0		107	70-130	0.242	30
1,3-Dichloropropane	52			ug/l	50.0		103	70-130	1.87	30
Ethyl tert-butyl ether	55			ug/l	50.0		109	70-130	0.0917	30
Diisopropyl ether	60			ug/l	50.0		119	70-130	4.03	30
Trichlorofluoromethane	42			ug/l	50.0		84.4	70-130	3.23	30
Dichlorodifluoromethane	49			ug/l	50.0		98.0	70-130	2.00	30
Surrogate: 4-Bromofluorobenzene			*51.4*	ug/l	*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*54.3*	ug/l	*50.0*		*109*	*70-130*		
Surrogate: Toluene-d8			*49.0*	ug/l	*50.0*		*98.1*	*70-130*		

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2C0164 - EPA 3546										
Blank (B2C0164-BLK1)					Prepared: 03/03/22 Analyzed: 03/04/22					
1,2,4-Trichlorobenzene	ND		130	ug/kg						
1,2-Dichlorobenzene	ND		130	ug/kg						
1,3-Dichlorobenzene	ND		130	ug/kg						
1,4-Dichlorobenzene	ND		130	ug/kg						
Phenol	ND		130	ug/kg						
2,4,5-Trichlorophenol	ND		130	ug/kg						
2,4,6-Trichlorophenol	ND		130	ug/kg						
2,4-Dichlorophenol	ND		130	ug/kg						
2,4-Dimethylphenol	ND		330	ug/kg						
2,4-Dinitrophenol	ND		330	ug/kg						
2,4-Dinitrotoluene	ND		130	ug/kg						
2,6-Dinitrotoluene	ND		130	ug/kg						
2-Chloronaphthalene	ND		130	ug/kg						
2-Chlorophenol	ND		130	ug/kg						
2-Methylnaphthalene	ND		130	ug/kg						
Nitrobenzene	ND		130	ug/kg						
2-Methylphenol	ND		130	ug/kg						
2-Nitroaniline	ND		130	ug/kg						
2-Nitrophenol	ND		330	ug/kg						
3,3'-Dichlorobenzidine	ND		330	ug/kg						
3-Nitroaniline	ND		130	ug/kg						
4,6-Dinitro-2-methylphenol	ND		330	ug/kg						
4-Bromophenyl phenyl ether	ND		130	ug/kg						
4-Chloro-3-methylphenol	ND		130	ug/kg						
4-Chloroaniline	ND		130	ug/kg						
4-Chlorophenyl phenyl ether	ND		130	ug/kg						
4-Nitroaniline	ND		130	ug/kg						
4-Nitrophenol	ND		330	ug/kg						
Acenaphthene	ND		130	ug/kg						
Acenaphthylene	ND		130	ug/kg						
Aniline	ND		130	ug/kg						
Anthracene	ND		130	ug/kg						
Benzo(a)anthracene	ND		130	ug/kg						
Benzo(a)pyrene	ND		130	ug/kg						
Benzo(b)fluoranthene	ND		130	ug/kg						
Benzo(g,h,i)perylene	ND		130	ug/kg						
Benzo(k)fluoranthene	ND		130	ug/kg						
Benzoic acid	ND		1000	ug/kg						
Biphenyl	ND		40	ug/kg						
Bis(2-chloroethoxy)methane	ND		130	ug/kg						
Bis(2-chloroethyl)ether	ND		130	ug/kg						
Bis(2-chloroisopropyl)ether	ND		130	ug/kg						
Bis(2-ethylhexyl)phthalate	ND		400	ug/kg						
Butyl benzyl phthalate	ND		130	ug/kg						
Chrysene	ND		130	ug/kg						
Di(n)octyl phthalate	ND		200	ug/kg						
Dibenz(a,h)anthracene	ND		130	ug/kg						
Dibenzofuran	ND		130	ug/kg						
Diethyl phthalate	ND		130	ug/kg						
Dimethyl phthalate	ND		330	ug/kg						
Di-n-butylphthalate	ND		200	ug/kg						
Fluoranthene	ND		130	ug/kg						
Fluorene	ND		130	ug/kg						
Hexachlorobenzene	ND		130	ug/kg						
Hexachlorobutadiene	ND		130	ug/kg						
Hexachlorocyclopentadiene	ND		330	ug/kg						
Hexachloroethane	ND		130	ug/kg						

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2C0164 - EPA 3546 (Continued)										
Blank (B2C0164-BLK1)					Prepared: 03/03/22 Analyzed: 03/04/22					
Indeno(1,2,3-cd)pyrene	ND		130	ug/kg						
Isophorone	ND		130	ug/kg						
Naphthalene	ND		130	ug/kg						
N-Nitrosodimethylamine	ND		130	ug/kg						
N-Nitrosodi-n-propylamine	ND		130	ug/kg						
N-Nitrosodiphenylamine	ND		130	ug/kg						
Pentachlorophenol	ND		330	ug/kg						
Phenanthrene	ND		130	ug/kg						
Pyrene	ND		130	ug/kg						
m&p-Cresol	ND		260	ug/kg						
Pyridine	ND		130	ug/kg						
Surrogate: Nitrobenzene-d5			*2970*	ug/kg	*3330*		*89.2*	*30-126*		
Surrogate: p-Terphenyl-d14			*3360*	ug/kg	*3330*		*101*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2800*	ug/kg	*3330*		*83.9*	*34-130*		
Surrogate: Phenol-d6			*2740*	ug/kg	*3330*		*82.2*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2310*	ug/kg	*3330*		*69.3*	*30-130*		
Surrogate: 2-Fluorophenol			*2760*	ug/kg	*3330*		*82.9*	*30-130*		
LCS (B2C0164-BS1)					Prepared: 03/03/22 Analyzed: 03/04/22					
1,2,4-Trichlorobenzene	2570		130	ug/kg	3330		77.0	40-130		
1,2-Dichlorobenzene	2510		130	ug/kg	3330		75.2	40-130		
1,3-Dichlorobenzene	2430		130	ug/kg	3330		72.9	40-130		
1,4-Dichlorobenzene	2430		130	ug/kg	3330		72.8	40-130		
Phenol	2660		130	ug/kg	3330		79.7	40-130		
2,4,5-Trichlorophenol	2470		130	ug/kg	3330		74.0	40-130		
2,4,6-Trichlorophenol	2540		130	ug/kg	3330		76.3	40-130		
2,4-Dichlorophenol	2640		130	ug/kg	3330		79.3	40-130		
2,4-Dimethylphenol	2500		330	ug/kg	3330		75.1	40-130		
2,4-Dinitrotoluene	3050		130	ug/kg	3330		91.6	40-130		
2,6-Dinitrotoluene	2980		130	ug/kg	3330		89.3	40-130		
2-Chloronaphthalene	2620		130	ug/kg	3330		78.5	40-130		
2-Chlorophenol	2580		130	ug/kg	3330		77.5	40-130		
2-Methylnaphthalene	2560		130	ug/kg	3330		76.9	40-130		
Nitrobenzene	2690		130	ug/kg	3330		80.8	40-130		
2-Methylphenol	2620		130	ug/kg	3330		78.7	40-130		
2-Nitroaniline	3100		130	ug/kg	3330		92.9	40-130		
2-Nitrophenol	2470		330	ug/kg	3330		74.0	40-130		
3-Nitroaniline	2950		130	ug/kg	3330		88.4	40-130		
4,6-Dinitro-2-methylphenol	457		330	ug/kg	3330		13.7	40-130		
4-Bromophenyl phenyl ether	2940		130	ug/kg	3330		88.2	40-130		
4-Chloro-3-methylphenol	2800		130	ug/kg	3330		84.0	40-130		
4-Chlorophenyl phenyl ether	2850		130	ug/kg	3330		85.5	40-130		
4-Nitroaniline	3050		130	ug/kg	3330		91.6	40-130		
4-Nitrophenol	3290		330	ug/kg	3330		98.7	40-130		
Acenaphthene	2730		130	ug/kg	3330		82.0	40-130		
Acenaphthylene	2690		130	ug/kg	3330		80.8	40-130		
Anthracene	2800		130	ug/kg	3330		84.0	40-130		
Benzo(a)anthracene	2900		130	ug/kg	3330		86.9	40-130		
Benzo(a)pyrene	3100		130	ug/kg	3330		93.0	40-130		
Benzo(b)fluoranthene	3260		130	ug/kg	3330		97.8	40-130		
Benzo(g,h,i)perylene	2920		130	ug/kg	3330		87.6	40-130		
Benzo(k)fluoranthene	3340		130	ug/kg	3330		100	40-130		
Biphenyl	679		40	ug/kg	833		81.5	40-130		
Bis(2-chloroethoxy)methane	2810		130	ug/kg	3330		84.4	40-130		
Bis(2-chloroethyl)ether	2670		130	ug/kg	3330		80.1	40-130		
Bis(2-chloroisopropyl)ether	3000		130	ug/kg	3330		90.1	40-130		
Bis(2-ethylhexyl)phthalate	3350		400	ug/kg	3330		100	40-130		

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2C0164 - EPA 3546 (Continued)										
LCS (B2C0164-BS1)					Prepared: 03/03/22 Analyzed: 03/04/22					
Butyl benzyl phthalate	3290		130	ug/kg	3330		98.6	40-130		
Chrysene	3020		130	ug/kg	3330		90.6	40-130		
Di(n)octyl phthalate	3710		200	ug/kg	3330		111	40-130		
Dibenz(a,h)anthracene	2970		130	ug/kg	3330		89.2	40-130		
Dibenzofuran	2690		130	ug/kg	3330		80.8	40-130		
Diethyl phthalate	3010		130	ug/kg	3330		90.2	40-130		
Dimethyl phthalate	2850		330	ug/kg	3330		85.4	40-130		
Di-n-butylphthalate	3120		200	ug/kg	3330		93.5	40-130		
Fluoranthene	2970		130	ug/kg	3330		89.0	40-130		
Fluorene	2880		130	ug/kg	3330		86.5	40-130		
Hexachlorobenzene	2850		130	ug/kg	3330		85.4	40-130		
Hexachlorobutadiene	2780		130	ug/kg	3330		83.4	40-130		
Hexachlorocyclopentadiene	2650		330	ug/kg	3330		79.4	40-130		
Hexachloroethane	2520		130	ug/kg	3330		75.5	40-130		
Indeno(1,2,3-cd)pyrene	2890		130	ug/kg	3330		86.6	40-130		
Isophorone	2780		130	ug/kg	3330		83.4	40-130		
Naphthalene	2540		130	ug/kg	3330		76.3	40-130		
N-Nitrosodimethylamine	2820		130	ug/kg	3330		84.6	40-130		
N-Nitrosodi-n-propylamine	2670		130	ug/kg	3330		80.1	40-130		
N-Nitrosodiphenylamine	3650		130	ug/kg	3330		109	40-130		
Pentachlorophenol	1500		330	ug/kg	3330		44.9	40-130		
Phenanthrene	2830		130	ug/kg	3330		85.0	40-130		
Pyrene	2930		130	ug/kg	3330		87.9	40-130		
m&p-Cresol	2670		260	ug/kg	3330		80.0	40-130		
Surrogate: Nitrobenzene-d5			*2880*	ug/kg	*3330*		*86.3*	*30-126*		
Surrogate: p-Terphenyl-d14			*3160*	ug/kg	*3330*		*94.8*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2780*	ug/kg	*3330*		*83.5*	*34-130*		
Surrogate: Phenol-d6			*2750*	ug/kg	*3330*		*82.4*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2790*	ug/kg	*3330*		*83.8*	*30-130*		
Surrogate: 2-Fluorophenol			*2690*	ug/kg	*3330*		*80.6*	*30-130*		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2C0164 - EPA 3546 (Continued)										
LCS Dup (B2C0164-BSD1)					Prepared: 03/03/22 Analyzed: 03/04/22					
1,2,4-Trichlorobenzene	2580		130	ug/kg	3330		77.4	40-130	0.518	30
1,2-Dichlorobenzene	2520		130	ug/kg	3330		75.5	40-130	0.451	30
1,3-Dichlorobenzene	2460		130	ug/kg	3330		73.8	40-130	1.28	30
1,4-Dichlorobenzene	2460		130	ug/kg	3330		73.8	40-130	1.34	30
Phenol	2680		130	ug/kg	3330		80.4	40-130	0.974	30
2,4,5-Trichlorophenol	2310		130	ug/kg	3330		69.3	40-130	6.56	30
2,4,6-Trichlorophenol	2420		130	ug/kg	3330		72.5	40-130	5.00	30
2,4-Dichlorophenol	2540		130	ug/kg	3330		76.3	40-130	3.85	30
2,4-Dimethylphenol	2370		330	ug/kg	3330		71.1	40-130	5.47	30
2,4-Dinitrotoluene	2930		130	ug/kg	3330		87.9	40-130	4.03	30
2,6-Dinitrotoluene	2820		130	ug/kg	3330		84.7	40-130	5.24	30
2-Chloronaphthalene	2550		130	ug/kg	3330		76.6	40-130	2.37	30
2-Chlorophenol	2560		130	ug/kg	3330		76.7	40-130	1.04	30
2-Methylnaphthalene	2550		130	ug/kg	3330		76.4	40-130	0.678	30
Nitrobenzene	2790		130	ug/kg	3330		83.7	40-130	3.50	30
2-Methylphenol	2590		130	ug/kg	3330		77.7	40-130	1.36	30
2-Nitroaniline	3040		130	ug/kg	3330		91.1	40-130	1.87	30
2-Nitrophenol	2430		330	ug/kg	3330		73.0	40-130	1.41	30
3-Nitroaniline	2730		130	ug/kg	3330		82.0	40-130	7.53	30
4,6-Dinitro-2-methylphenol	969		330	ug/kg	3330		29.1	40-130	71.8	30
4-Bromophenyl phenyl ether	2750		130	ug/kg	3330		82.4	40-130	6.78	30
4-Chloro-3-methylphenol	2810		130	ug/kg	3330		84.3	40-130	0.309	30
4-Chlorophenyl phenyl ether	2770		130	ug/kg	3330		83.0	40-130	2.99	30
4-Nitroaniline	3010		130	ug/kg	3330		90.4	40-130	1.32	30
4-Nitrophenol	3150		330	ug/kg	3330		94.6	40-130	4.22	30
Acenaphthene	2640		130	ug/kg	3330		79.3	40-130	3.40	30
Acenaphthylene	2590		130	ug/kg	3330		77.6	40-130	3.99	30
Anthracene	2650		130	ug/kg	3330		79.4	40-130	5.61	30
Benzo(a)anthracene	2690		130	ug/kg	3330		80.7	40-130	7.38	30
Benzo(a)pyrene	2860		130	ug/kg	3330		85.7	40-130	8.13	30
Benzo(b)fluoranthene	3030		130	ug/kg	3330		90.8	40-130	7.49	30
Benzo(g,h,i)perylene	2610		130	ug/kg	3330		78.4	40-130	11.1	30
Benzo(k)fluoranthene	3050		130	ug/kg	3330		91.6	40-130	8.93	30
Biphenyl	674		40	ug/kg	833		80.9	40-130	0.788	30
Bis(2-chloroethoxy)methane	2810		130	ug/kg	3330		84.4	40-130	0.0237	30
Bis(2-chloroethyl)ether	2630		130	ug/kg	3330		78.9	40-130	1.51	30
Bis(2-chloroisopropyl)ether	2970		130	ug/kg	3330		89.2	40-130	0.981	30
Bis(2-ethylhexyl)phthalate	3100		400	ug/kg	3330		92.9	40-130	7.84	30
Butyl benzyl phthalate	3060		130	ug/kg	3330		91.9	40-130	7.06	30
Chrysene	2770		130	ug/kg	3330		83.0	40-130	8.75	30
Di(n)octyl phthalate	3380		200	ug/kg	3330		102	40-130	9.28	30
Dibenz(a,h)anthracene	2690		130	ug/kg	3330		80.7	40-130	9.98	30
Dibenzofuran	2600		130	ug/kg	3330		78.1	40-130	3.40	30
Diethyl phthalate	2900		130	ug/kg	3330		87.1	40-130	3.52	30
Dimethyl phthalate	2720		330	ug/kg	3330		81.5	40-130	4.63	30
Di-n-butylphthalate	2880		200	ug/kg	3330		86.5	40-130	7.78	30
Fluoranthene	2740		130	ug/kg	3330		82.2	40-130	7.90	30
Fluorene	2790		130	ug/kg	3330		83.6	40-130	3.34	30
Hexachlorobenzene	2650		130	ug/kg	3330		79.4	40-130	7.28	30
Hexachlorobutadiene	2790		130	ug/kg	3330		83.7	40-130	0.383	30
Hexachlorocyclopentadiene	2760		330	ug/kg	3330		82.9	40-130	4.21	30
Hexachloroethane	2520		130	ug/kg	3330		75.5	40-130	0.0265	30
Indeno(1,2,3-cd)pyrene	2570		130	ug/kg	3330		77.1	40-130	11.6	30
Isophorone	2730		130	ug/kg	3330		81.9	40-130	1.86	30
Naphthalene	2550		130	ug/kg	3330		76.4	40-130	0.157	30
N-Nitrosodimethylamine	2850		130	ug/kg	3330		85.6	40-130	1.22	30
N-Nitrosodi-n-propylamine	2640		130	ug/kg	3330		79.2	40-130	1.18	30

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2C0164 - EPA 3546 (Continued)										
LCS Dup (B2C0164-BSD1)					Prepared: 03/03/22 Analyzed: 03/04/22					
N-Nitrosodiphenylamine	3410		130	ug/kg	3330		102	40-130	6.78	30
Pentachlorophenol	2250		330	ug/kg	3330		67.6	40-130	40.3	30
Phenanthrene	2700		130	ug/kg	3330		80.9	40-130	4.92	30
Pyrene	2760		130	ug/kg	3330		82.8	40-130	6.05	30
m&p-Cresol	2650		260	ug/kg	3330		79.5	40-130	0.652	30
Surrogate: Nitrobenzene-d5			*2880*	ug/kg	*3330*		*86.5*	*30-126*		
Surrogate: p-Terphenyl-d14			*3070*	ug/kg	*3330*		*92.1*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2830*	ug/kg	*3330*		*84.8*	*34-130*		
Surrogate: Phenol-d6			*2780*	ug/kg	*3330*		*83.5*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2820*	ug/kg	*3330*		*84.5*	*30-130*		
Surrogate: 2-Fluorophenol			*2700*	ug/kg	*3330*		*80.9*	*30-130*		

Quality Control
(Continued)

Polychlorinated Biphenyls (PCBs)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2C0125 - EPA 3546										
Blank (B2C0125-BLK1)					Prepared: 03/02/22 Analyzed: 03/03/22					
Aroclor-1016	ND		66	ug/kg						
Aroclor-1221	ND		66	ug/kg						
Aroclor-1232	ND		66	ug/kg						
Aroclor-1242	ND		66	ug/kg						
Aroclor-1248	ND		66	ug/kg						
Aroclor-1254	ND		66	ug/kg						
Aroclor-1260	ND		66	ug/kg						
Aroclor-1262	ND		66	ug/kg						
Aroclor-1268	ND		66	ug/kg						
PCBs (Total)	ND		66	ug/kg						
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*13.4*	ug/kg	*13.3*		*100*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*13.6*	ug/kg	*13.3*		*102*	*43.3-130*		
LCS (B2C0125-BS1)					Prepared: 03/02/22 Analyzed: 03/03/22					
Aroclor-1016	147		66	ug/kg	167		88.0	58.2-125		
Aroclor-1260	141		66	ug/kg	167		84.7	65.5-130		
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*11.5*	ug/kg	*13.3*		*86.3*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*12.3*	ug/kg	*13.3*		*92.3*	*43.3-130*		
LCS Dup (B2C0125-BSD1)					Prepared: 03/02/22 Analyzed: 03/03/22					
Aroclor-1016	156		66	ug/kg	167		93.9	58.2-125	6.44	20
Aroclor-1260	153		66	ug/kg	167		91.6	65.5-130	7.88	20
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*13.2*	ug/kg	*13.3*		*99.1*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*13.1*	ug/kg	*13.3*		*98.3*	*43.3-130*		

Quality Control
(Continued)

Total Petroleum Hydrocarbons

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2B1170 - EPA 3546										
Blank (B2B1170-BLK1)					Prepared: 02/26/22 Analyzed: 02/28/22					
Total Petroleum Hydrocarbons	ND		27	mg/kg						
Surrogate: Chlorooctadecane			*7.61*	mg/kg	*8.33*		*91.3*	*56.5-114*		
LCS (B2B1170-BS1)					Prepared: 02/26/22 Analyzed: 03/01/22					
Total Petroleum Hydrocarbons	321		27	mg/kg	667		48.2	44.7-125		
Surrogate: Chlorooctadecane			*6.89*	mg/kg	*8.33*		*82.7*	*56.5-114*		
LCS Dup (B2B1170-BSD1)					Prepared: 02/26/22 Analyzed: 03/01/22					
Total Petroleum Hydrocarbons	381		27	mg/kg	667		57.1	44.7-125	16.9	200
Surrogate: Chlorooctadecane			*7.48*	mg/kg	*8.33*		*89.8*	*56.5-114*		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

2 B 2 3014 R

Chain of Custody Record

Project No. 2035	Project Name/Location: Asa Messer Elementary School, Proividence, RI				Matrix					Tests**							
Client: GRA																	
Report To: Richard Sullivan																	
Invoice To: Richard Sullivan																	
Date	**Time**	**Comp**	**Grab**	**Sample I.D.**	**Aqueous**	**Soil**	**Other**	**No. of Containers**	**Preservative**	RCRA 8 metals	PCBs	TPH 8100M	SVOCs (EPA 8270)	pH, Free Liquids	Flashpoint	VOCsEPA8260	Notes
2/21/2022	PM		X	GRA-W		X		4	None	x	x	x	x	x	x	x	
2/21/2022	PM		X	GRA-E		X		4	None	x	x	x	x	x	x	x	

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:	Special Instructions:
Relinquished By:	Date/Time	Received By:	Date/Time	Temp. Received:	
Relinquished By:	Date/Time	Received By:	Date/Time 2/21/22 1430	Temp. Received:	

**Netlab Subcontracts the following tests: Radiologicals, Radon, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: **5 Days**