



May 29, 2024

Ms. Reilly Cusick
Rhode Island Department of Environmental Management
Office of Land Revitalization and Sustainable Materials Management
235 Promenade Street
Providence, RI 02908
Sent Via Email: reilly.cusick@dem.ri.gov

**RE: GB Leachability Soils Evaluation
111 Brown Street
East Providence, Rhode Island
RIDEM Case No. SR-10-2181
SAGE Project No. S4554**

Dear Ms. Cusick:

SAGE Environmental, Inc. (SAGE) has prepared the subject letter to provide the results of additional investigation conducted at the subject location (hereinafter, "Site") in the area of where total petroleum hydrocarbons (TPH) was previously found in soil at a concentration exceeding the applicable GB Leachability Criteria (GB-LC).

As documented in the SAGE Site Investigation Report (SIR) and subsequent comment letter response, one (1) soil sample identified as [SETP-111 (0-6')] contained TPH at a concentration of 3,000 mg/Kg, exceeding the GB-LC of 2,500 mg/Kg. The location of this sample is depicted in **Figure 1**. To further evaluate the presence of TPH, on May 23, 2024, SAGE advanced a test pit within the area of SETP-111 (identified as SETP-111(R) and also depicted in **Figure 1**) from which soils were collected within the top 6 feet below surface grade (BSG). The resulting sample (identified as SETP-111 (R) (0-6)) was then submitted to a certified laboratory for analysis of Extractable Petroleum Hydrocarbons (EPH) and Volatile Petroleum Hydrocarbons (VPH).

The sample analysis did not detect EPH, VPH, or associated fractions exceeding current or proposed RIDEM Method 1 Residential Direct Exposure Criteria or GB-LC. A summary of the results is provided in the table below and a copy of the analytical report is included in **Attachment 1**.

**Soil Analytical Summary Table
May 23, 2024**

Sample ID (Depth (Feet))/Date	SETP-111 (R) (0-6)	RIDEM Method 1 R-DEC	RIDEM Method 1 GB-LC
	5/23/2024		
Analyte	Result		
Volatile Petroleum Hydrocarbons (VPH)(mg/kg)			
Benzene	< 0.032	2.5	4.3
C5-C8 Aliphatic Hydrocarbons	< 6.4	100	100
C9-C10 Aromatic Hydrocarbons	< 6.4	100	100
C9-C12 Aliphatic Hydrocarbons	< 6.4	1000	1000
Ethyl Benzene	< 0.064	71	62
m,p-Xylenes	< 0.064	NE	NE
MTBE	< 0.064	390	100
Naphthalene	0.36	54	NE
o-Xylene	< 0.064	NE	NE
Toluene	< 0.064	190	54
Extractable Petroleum Hydrocarbon (EPH) Fractions (mg/kg)			
C11-C22 Aromatic Hydrocarbons	< 400	1000	1000
C19-C36 Aliphatic Hydrocarbons	< 400	3000	2500
C9-C18 Aliphatic Hydrocarbons	< 400	1000	1000

Result Detected

- Indicates analyte concentration not detected at or above specified laboratory reporting limit (x)
- <x: Standard not established for this substance
- NE: Results are compared to the Draft Proposed RIDEM
- Note: EPH & VPH Criteria

Based upon the further analysis described herein, SAGE is requesting the initial TPH result be considered non-jurisdictional.

Should you have any questions or require additional information, please contact me at your convenience.

Sincerely,
SAGE Environmental, Inc.

Jacob H. Butterworth
Jacob H. Butterworth, MS, LSP
Vice President

Becky Raymond
Becky Raymond
Environmental Scientist

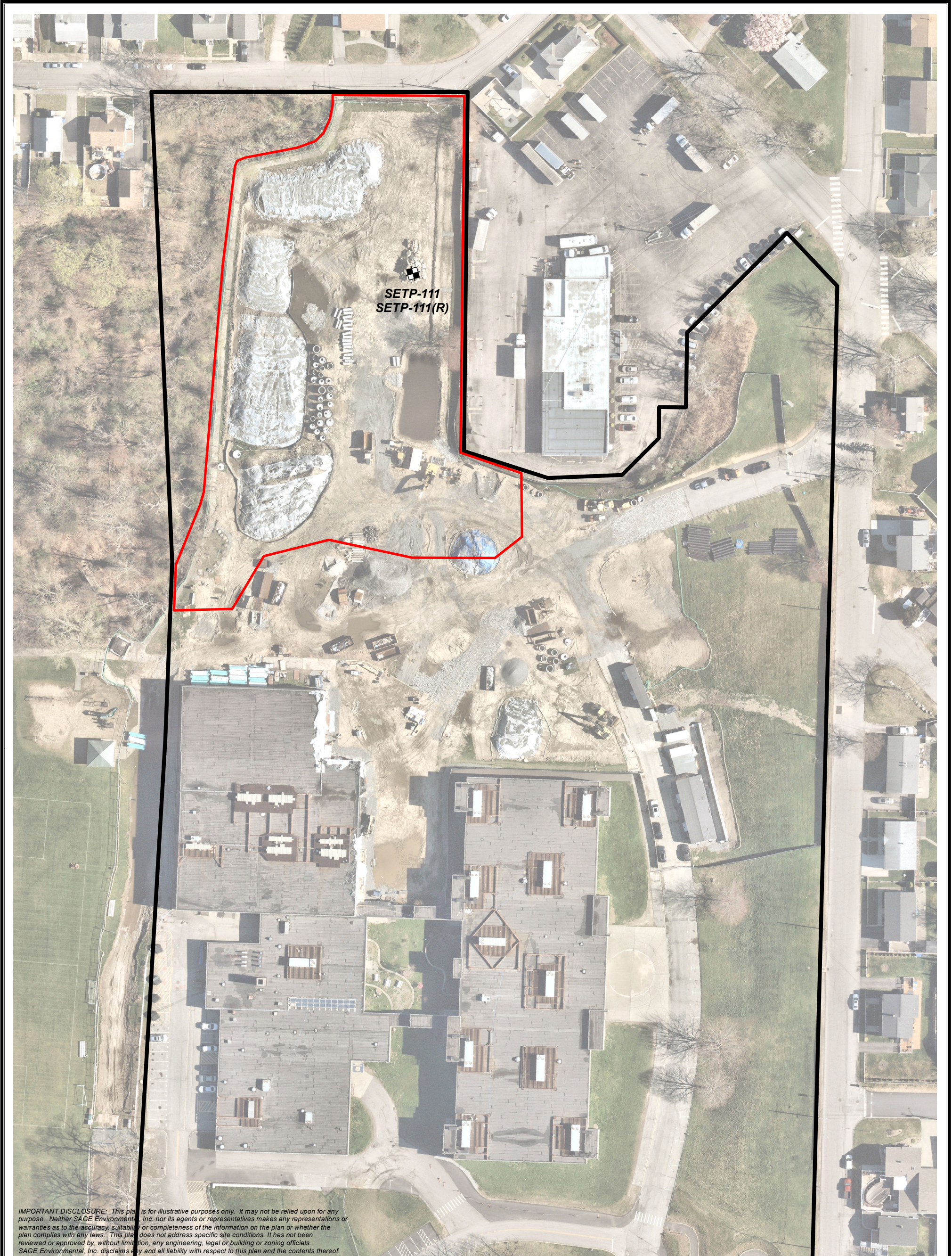
JHB:jpl

Attachments

- Figure 1 Sample Location Plan
- Attachment 1 Laboratory Analytical Report and Chain-of-Custody Documentation (Soil)



FIGURES

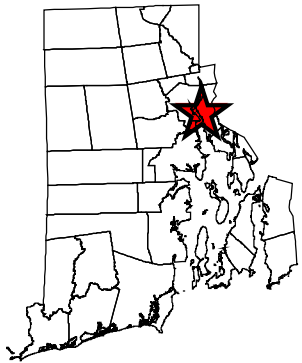


IMPORTANT DISCLOSURE: This plan is for illustrative purposes only. It may not be relied upon for any purpose. Neither SAGE Environmental, Inc. nor its agents or representatives makes any representations or warranties as to the accuracy, suitability or completeness of the information on the plan or whether the plan complies with any laws. This plan does not address specific site conditions. It has not been reviewed or approved by, without limitation, any engineering, legal or building or zoning officials. SAGE Environmental, Inc. disclaims any and all liability with respect to this plan and the contents thereof.

Sample Location Plan

111 Brown Street
East Providence, Rhode Island

Figure 1



★ Property Location

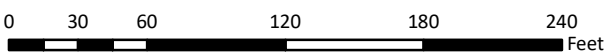
Date: 05/29/2024

Job #: S4554B

Created By: LM/jpl

Legend

- Approximate Contaminated Site Boundary (North Field)
- Approximate Property Boundary
- Approximate Test Pit Location



Data Provided by RIGIS
Orthimagery provided by nearmap.com



ATTACHMENT 1



Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 24, 2024

FOR: Attn: Sage Environmental Inc.
301 Friendship Street
Providence RI 02903

Sample Information

Matrix: SOIL
Location Code: SAGE
Rush Request: 24 Hour
P.O.#:

Custody Information

Collected by:
Received by: B
Analyzed by: see "By" below

Date Time

05/23/24 8:00
05/23/24 15:25

Laboratory Data

SDG ID: GCQ79918
Phoenix ID: CQ79918

Project ID: S4554B-MMS
Client ID: SETP-111 (R) (0-6)

Table with 8 columns: Parameter, Result, RL/PQL, Units, Dilution, Date/Time, By, Reference. Rows include Percent Solid, EPH Extraction, Ext. Petroleum Hydrocarbons, and MA Petroleum Hydrocarbon (VPH).

MA EPH Aliphatic/Aromatic Ranges

Table with 8 columns: Parameter, Result, RL/PQL, Units, Dilution, Date/Time, By, Reference. Rows include C11-C22 Aromatic Hydrocarbons and C9-C18 Aliphatic Hydrocarbons.

QA/QC Surrogates

Table with 8 columns: Parameter, Result, RL/PQL, Units, Dilution, Date/Time, By, Reference. Rows include % 1-chlorooctadecane, % 2-Bromonaphthalene, % 2-Fluorobiphenyl, and % o-terphenyl.

MA Volatile Petroleum Hydrocarbons (VPH)

Table with 8 columns: Parameter, Result, RL/PQL, Units, Dilution, Date/Time, By, Reference. Rows include Unadjusted C5-C8 Aliphatics, Unadjusted C9-C12 Aliphatics, Benzene, Ethyl Benzene, MTBE, Naphthalene, and Toluene.

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
m,p-Xylenes	ND	0.064	mg/Kg	50	05/24/24	V	MA VPH2.1, 2018
o-Xylene	ND	0.064	mg/Kg	50	05/24/24	V	MA VPH2.1, 2018
<u>QA/QC Surrogates</u>							
% 2,5-Dibromotoluene (FID)	92		%	50	05/24/24	V	70 - 130 %
% 2,5-Dibromotoluene (PID)	90		%	50	05/24/24	V	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:

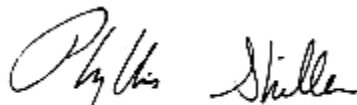
- 1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
- 2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:

- *1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
- *2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
- *3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

May 24, 2024

Official Report Release To Follow

Sample Criteria Exceedances Report

GCQ79918 - SAGE

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



CT/MA/RI CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Coolant: Yes No
 IPK ICE No
 Temp Pg of

Data Delivery/Contact Options:

Fax: _____
 Phone: _____
 Email: SAME

Customer: SAGE Environmental
 Address: 301 Friendship St.
Providence, RI

Project: 24554B-MMS
 Report to: data@sage-enviro.com
 Invoice to: ap@sage-enviro.com
 Quote # _____

Project P.O.:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [Signature] Date: 5/23/24

Matrix Code:
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
 B=Bulk L=Liquid X = _____ (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	MS/MSD	GA Leachability	GB Leachability	GA-GW Objectives	GB-GW Objectives	Other
79918	SETP-III(R)(O-G)	S	5/23	8:00	X	X				

**MS/MSD (May be billable at analysis unit rate)*
GA (Fracture only)
 VPH
 GL Amber 8 oz. | 1 WH PO₄ | 1 NAH₂SO₄
 Soil VOA Vials | 1 methanol | 1 H₂O
 GL Soil container () oz
 40 ml VOA Vial () oz
 GL Amber 1000ml | 1 As is | 1 HCl
 PL As is | 1 250ml | 1500ml | 1 H₂SO₄
 PL H₂SO₄ | 1 250ml | 1500ml
 PL HNO₃ 250ml
 PL NaOH 250ml
 Barista Bottle white
 Barista Bottle BE is

Relinquished by: [Signature] Accepted by: [Signature] Date: 5-25-24 11:25 Time: 5/23/24 15:25

Comments, Special Requirements or Regulations:
Need by end of day, Friday

Turnaround Time:
 1 Day* Standard
 2 Days* Other
 3 Days*
 4 Days*
 5 Days*

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.
 * SURCHARGES MAY APPLY

RI
 RES DEC
 I/C DEC
 GA Leachability
 GB Leachability
 GA -GW Objectives
 GB -GW Objectives
 Other

CT
 RCP Cert
 GWPC
 SWPC
 GA PMC
 GB PMC
 SWPC
 RES DEC
 I/C DEC

MA
 MCP Certification
 GW-1 RCS-1 / RCGW-1
 GW-2 RCS-2 / RCGW-2
 GW-3
 S-1
 S-2
 S-3
 SW Protection

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package
 Tier II Checklist*
 Full Data Package*
 Phoenix Std
 Other

State where samples were collected: RI
 * SURCHARGE APPLIES