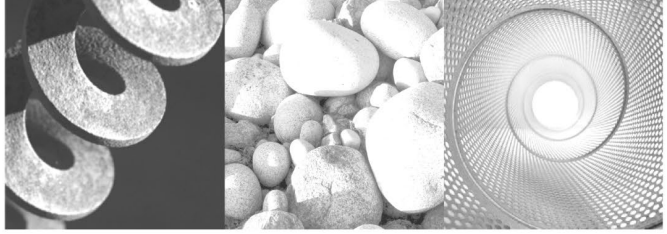


GEI Consultants

MassDEP RTN 3-24070

Phase IV Status Report No. 18

Amesbury Former MGP Site,
Amesbury, Massachusetts

Submitted to:
Boston Gas Company d/b/a National Grid
170 Data Drive
Waltham, MA 02451

Submitted by:
GEI Consultants, Inc.
100 Quannapowitt Parkway, Suite 300
Wakefield, MA 01880
781.721.4000

January 28, 2026
Project No. 1804576

Ryan S. Hoffman, P.G., LSP
Vice President

James R. Ash, P.E., LSP
Senior Vice President

Table of Contents

JES/RSH:jam
B:\Working\NATIONAL GRID\1804576 Amesbury MGP\01_ADMIN\Phase IV SR No 18\3-24070 PhIV SR No 18.docx

Executive Summary

On behalf of Boston Gas Company d/b/a National Grid (National Grid), GEI Consultants, Inc., prepared this Phase IV Status Report No. 18 for the former Amesbury manufactured gas plant (MGP) in Amesbury, Massachusetts (the Site). The Massachusetts Department of Environmental Protection (MassDEP) has assigned Release Tracking Number (RTN) 3-24070 to the Site. GEI prepared this report to meet the requirements specified in Section 40.0877 of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). Per 310 CMR 40.0877(3), a Phase IV Status Report is not required for the Site because the selected Comprehensive Remedial Alternative does not involve Active Operation and Maintenance; however, National Grid has elected to submit Phase IV Status Reports every 6 months to document ongoing activities (including permitting and design) associated with MGP-related impacts that were encountered during Phase IV remedy implementation at the Site.

The Site originally included a National Grid property (39 Water Street), a portion of a City of Amesbury property (39A Water Street), and a small, subdivided wetland portion of a privately-owned property (33R Oakland Street). In July 2015, the Site was expanded to include a small upland portion of the abutting property at 34-40 Water Street after dense non-aqueous phase liquid (DNAPL) as coal tar was encountered in a monitoring well.

On October 18, 2016, GEI submitted a Phase III Remedial Action Plan (RAP) Addendum and Phase IV Remedy Implementation Plan (RIP) on behalf of National Grid. The Phase IV remedy for the Site included excavating wetland soil and a small portion of upland soil, dredging sediment, restoring the wetlands, and implementing institutional controls. Construction associated with planned Phase IV remediation activities began in October 2016 and was completed in June 2017. However, in April 2017, while installing coir logs on the southeastern boundary of the work area, residual coal tar was observed in shallow wetland soil at the southeastern edge of the Site. This area was beyond the designed and permitted limit of work.

Between April 2017 and September 2024 GEI performed investigations at the Site on behalf of National Grid to delineate the extent of MGP impacts within the wetlands, mudflats, and Powwow River channel beyond the limits of the original Site boundary. On November 3, 2025, GEI submitted a Supplemental Phase II Comprehensive Site Assessment (CSA) Report on behalf of National Grid. Based on supplemental investigations, the Site was expanded further to include 28 additional properties along the Powwow River, some upstream of the former MGP but most downstream of the former MGP. The portion of the Powwow River within the Site includes approximately 150 linear feet upstream and approximately 5,150 linear feet downstream, including a former channel of the Powwow River that was filled during the 1960s as part of the Interstate 495 construction.

This report documents activities that were completed between July 1 and December 31, 2025. In July 2025, GEI hand excavated two test pits to collect additional information to support the ongoing remedial alternatives analysis. The test pits were advanced to a depth of 1.5 feet at 41 Oakland Street. Contaminant concentrations in the sediment samples were consistent with samples collected during the Supplemental Phase II CSA investigations.

A Phase III RAP Addendum and Phase IV RIP Addendum will be submitted now that assessment activities are complete. The Phase III RAP Addendum is anticipated to be submitted in Winter 2026. The specific timeframe for Phase IV remedial activities is uncertain at this time and depends on coordinating property access, evaluating remedial action alternatives for the remainder of the disposal site, and permitting the selected remedial action. Activity and Use Limitations (AULs) may be recorded on the deeds of select properties or portions of properties within the disposal site prior to achieving a Permanent Solution.

1. Introduction

On behalf of Boston Gas Company d/b/a National Grid (National Grid), GEI Consultants, Inc., prepared this Phase IV Status Report No. 18 for the former manufactured gas plant (MGP) site in Amesbury, Massachusetts (the Site; Fig. 1). GEI has prepared the report to meet the requirements specified in Section 40.0877 of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The Comprehensive Response Action Transmittal Form (BWSC108) was submitted to the Massachusetts Department of Environmental Protection (MassDEP) electronically, and a copy is in Appendix A.

1.1. Purpose

The purpose of this Phase IV Status Report No. 18 is to document the operation, maintenance, and monitoring (OMM) activities conducted between July 1 and December 31, 2025. Per 310 CMR 40.0877(3), a Phase IV Status Report is not required for the Site because the selected Comprehensive Remedial Alternative does not involve Active Operation and Maintenance; however, National Grid has elected to submit Phase IV Status Reports every 6 months to document the ongoing activities (including permitting and design) associated with MGP-related impacts that were encountered during Phase IV remedy implementation at the Site.

1.2. Site Description

The former Amesbury MGP is located near the intersection of Water and Chestnut Streets in Amesbury, Massachusetts (Figs. 1 and 2) at approximately 42°51’20” north latitude and 70°55’29” west longitude. The Universal Transverse Mercator (UTM) coordinates are 4,746,579mN and 342,740mE. The Site originally included a National Grid property (39 Water Street), a portion of a City of Amesbury property (39A Water Street), and a small, subdivided wetland portion of a privately-owned property (33R Oakland Street) (Fig. 2). In July 2015, the Site was expanded to include a small upland portion of the abutting property at 34-40 Water Street after dense non-aqueous phase liquid (DNAPL) as coal tar was encountered in a monitoring well (ESS-5; Fig. 2).

On November 3, 2025, GEI submitted a Supplemental Phase II Comprehensive Site Assessment (CSA) Report on behalf of National Grid. Based on supplemental investigations performed between 2017 and 2024, the Site was expanded further to include 28 additional properties along the Powwow River, some upstream of the former MGP but most downstream of the former MGP. The portion of the Powwow River within the Site includes approximately 150 linear feet upstream and approximately 5,150 linear feet downstream, including a former channel of the Powwow River that was filled during the 1960s as part of the Interstate 495 construction (Fig. 2).

The Site includes the former Amesbury MGP, downstream wetlands, mudflats, and portions of the main channel of the Powwow River, most of which is privately owned. Due to the freshwater influence and tidal nature of the Powwow River, property boundaries along the Powwow River extend to either:

- The thalweg of the river when the mean low water (MLW) line (defined as El. -2.84) is below the riverbed, which is the case for properties upstream of and including portions of 222 Main Street and 27 River Street (Fig. 2); or
- The MLW line when it is above the riverbed, which is the case for properties downstream from 222 Main Street and 27 River Street (Fig. 2). The portion of the Powwow River below MLW is tidelands owned by the Commonwealth of Massachusetts.

All elevations in this report are based on the National Geodetic Vertical Datum 1929 datum (NGVD29).

Properties within the Site include single-family residential properties along Oakland Street and River Street; multi-family residential properties at 24 Oak Street and 32 Macy Street; commercial/industrial properties (and a children's daycare) at 34-40 Water Street, 7 Noel Street, and 58 Macy Street; an adult daycare facility at 8 Noel Street and a school at 222 Main Street; a portion of the Northbound and Southbound lanes of Interstate 495 (I-495); and a portion of the onramp connecting Route 110 (Macy Street) to I-495 Southbound. These and other properties surrounding the Site are shown in a Site plan in Fig. 2.

Although property uses vary within the Site, there are no buildings within the Site. As described above, the Site only includes undeveloped wetlands, mudflats, and portions of the main channel of the Powwow River. There are electric transmission lines with easements within the Site, including on most of the properties on the western bank of the Powwow River; and there are sewer lines with easements within the Site at 1 Field Street.

1.3. Previous MCP Activities

A comprehensive summary of previous MCP activities was provided in GEI's Phase II CSA and Phase III Remedial Action Plan (RAP) Report (Phase II/III Report) dated July 2009, Class C-2 Response Action Outcome (RAO) Statement dated July 2010, Supplemental Phase II CSA Report dated October 2025, and previous Post-RAO and Phase IV status reports. Contaminants related, in part, to the historical use of the Site as a former MGP have affected soil, groundwater, and other media at the Site. GEI, on behalf of National Grid, has evaluated contaminant conditions at the Site since 2004.

In the Phase II/III Report (2009), we recommended implementation of a remedy consisting of capping of the existing wetland and replicating it at an off-site location, excavating sediment from the Powwow River, removing dense non-aqueous phase liquid (DNAPL) from wells, and implementing institutional controls. Following the submission of the Phase II/III Report, additional consideration of federal and state wetland mitigation requirements and further analysis of data collected at the Site resulted in some modifications to the selected remedy. The revised alternative eliminated the wetland cap and off-site wetland replication in lieu of excavation and on-site wetland restoration.

The 5-year RAO deadline for the Site was July 29, 2010. National Grid was unable to achieve a Permanent Solution within that timeframe. Consequently, on July 29, 2010, on behalf of National Grid, GEI submitted a Class C-2 RAO Statement to achieve a Temporary Solution in the short-term, documenting a finding of No Substantial Hazard at the Site and allowing time to continue with the Phase IV remedial design process.

On October 18, 2016, GEI submitted a Phase III RAP Addendum and Phase IV Remedy Implementation Plan (RIP) on behalf of National Grid. Construction associated with planned Phase IV remediation activities began in October 2016 and was completed in June 2017 (except for post-construction wetland restoration monitoring). Field activities for the implementation of the Phase IV RIP included excavating wetland soil and a small portion of upland soil to a depth of approximately 3 feet, dredging sediment at the edge of the Powwow River to a depth of approximately 1 foot, transporting the soil and sediment off site for treatment or disposal, and restoring the wetlands. These activities were documented in the Phase IV Status Report, Post-Temporary Solution Status Report, and Remedial Monitoring Report submitted in August 2017.

In April 2017, during construction associated with Phase IV activities, previously unknown coal tar-impacted soil was discovered while installing coir logs on the southeastern boundary of the work area (Fig. 2). This area was beyond the designed and permitted limit of work. Additional assessment of this area was performed, and these activities are summarized in Section 2.1.

As documented in Phase IV Status Report No. 5, submitted in July 2019, a condition representing Readily Apparent Harm (RAH) exists due to the visible presence of tar over an area greater than 1,000 square feet in sediment within 1 foot of the sediment surface. The condition has been observed beyond the limits of the currently defined disposal Site boundary and the original Phase IV remedial area. This condition represents Readily Apparent Harm (310 CMR 0995(3)(b)(1)(c)) and a Substantial Hazard (310 CMR 40.0956(2)(b)). This condition invalidated the Temporary Solution recorded for the Site, and the Temporary Solution was retracted as part of Phase IV Status Report No. 5.

In the Supplemental Phase II CSA Report (2025), GEI expanded the Site based on observations of MGP impacts within the wetland, mudflats, and Powwow River channel beyond the limits of the original Site boundary. Contaminants were detected in sediment 1) in the wetlands and mudflats adjacent to the former MGP near Oakland Street where the release(s) historically occurred; 2) within the Powwow River both upstream and downstream of the mudflats; 3) and within a portion of the former Powwow River channel that was subsequently filled as part of construction of I-495. GEI and National Grid are evaluating potential remedial action alternatives to address contaminants in sediment within the Powwow River.

2. Operation, Maintenance, and Monitoring [310 CMR 40.0877(4)]

This section summarizes the OMM activities performed at the Site.

2.1. Type and Frequency of OMM Activities [310 CMR 40.0877(4)(a)]

Additional assessment was performed to evaluate coal tar impacts beyond the southeastern Site boundary.

2.1.1. Assessment Performed During Previous Reporting Periods

Between April 2017 and September 2024 GEI performed investigations at the Site on behalf of National Grid to delineate the extent of MGP impacts within the wetlands, mudflats, and Powwow River channel beyond the limits of the original Site boundary; evaluate whether various migration pathways existed and could contribute to movement of contaminants; evaluate potential human health and ecological risks; and support future remediation permitting and design. A summary of these investigations is available in the Supplemental Phase II CSA Report submitted to MassDEP on November 3, 2025. Figures 2 and 3 show the locations of test pits, sediment cores and surface water samples associated with those investigations.

2.1.2. Assessment Performed During Current Reporting Period

On July 15, 2025, to collect additional information to support the ongoing remedial alternatives analysis, GEI completed two test pits by hand (894 and 895; Fig. 3) at 41 Oakland Street. The samples were collected on private property. In accordance with the MCP (310 CMR 40.1403(10)), National Grid provided notice of the planned sampling to the owner as well as notice of the sampling results to the owner. Copies of the notifications are in Appendix B.

The hand-excavated test pits were advanced to a depth of approximately 1.5 feet. Sediment was evaluated for visual and olfactory evidence of contamination. GEI's field observations at each location are summarized in Table 1, and test pit logs are included in Appendix C.

Samples from test pit locations 894 and 895 were submitted for laboratory analysis of monocyclic aromatic hydrocarbons (MAHs), polycyclic aromatic hydrocarbons (PAHs), and total organic carbon (TOC). Samples were submitted to ESS Laboratory of Cranston, Rhode Island (ESS). The data are in Table 2, and the laboratory data report for the samples collected during this reporting period is in Appendix D. Contaminant concentrations in the sediment samples were consistent with samples collected during the Supplemental Phase II CSA investigations.

2.1.3. Remediation Waste Management

Remediation waste was not generated or transported during this reporting period.

2.2. Significant Modifications of the OMM Program [310 CMR 40.0877(4)(b)]

There were no significant modifications made to the OMM program during the current reporting period.

2.3. Evaluation of Performance of Remedial Action [310 CMR 40.0877(4)(c)]

The initial implementation of the Comprehensive Remedial Action indicates that the remedy within the limits of the original Phase IV area is performing as designed to achieve the remedial goals of the Phase IV RIP. However, residual coal tar was observed in the wetland, Powwow River mudflats, and within the main Powwow River channel beyond the southeastern limits of the original Phase IV remedial area. Additional assessment of tar impacts is complete, and results were presented in the Supplemental Phase II CSA Report in November 2025.

A Phase III RAP Addendum and Phase IV RIP Addendum will be submitted now that assessment activities are complete. The Phase III RAP Addendum is anticipated to be submitted in Winter 2026. The specific timeframe for Phase IV remedial activities is uncertain at this time and depends on coordinating property access, evaluating remedial action alternatives for the remainder of the disposal site, and permitting the selected remedial action. Activity and Use Limitations (AULs) may be recorded on the deeds of select properties or portions of properties within the disposal site prior to achieving a Permanent Solution.

2.4. Conditions or Problems Affecting Remedial Action Performance [310 CMR 40.0877(4)(d)]

There have not been any conditions or problems noted during the reporting period that are or may be affecting the remedial action performance within the limits of the original Phase IV remedial area.

2.5. Measures Taken to Correct Conditions Affecting Remedial Action Performance [310 CMR 40.0877(4)(e)]

No measures have been necessary to correct conditions affecting the remedial action performance within the limits of the original Phase IV remedial area.

2.6. Name, License Number, Signature, and Seal of LSP [310 CMR 40.0877(4)(f)]

The Licensed Site Professional (LSP) for the Site is James R. Ash, P.E., LSP (LSP License No. 6581). The signature and seal of the LSP are provided on MassDEP transmittal form BWSC108 (Appendix A).

3. Limitations

This report was prepared for the use of National Grid, exclusively. The conclusions presented in this report are based solely on the information in this report and previous reports prepared for this Site by GEI. Additional quantitative information regarding the Site, not available to GEI, may result in a modification of the findings herein. This report has been prepared in accordance with generally accepted geohydrological practices. No warranty, express or implied, is made.

4. References

GEI (2005). "Phase I Initial Site Investigation and Tier Classification, Map 54, Lot 219, Water Street, Amesbury, MA, DEP RTN 3-24070," July 29.

GEI (2008). "Release Notification and Immediate Response Action Plan, Former Manufactured Gas Plant Site, Map 54, Lot 219 Water Street, Amesbury, MA, RTN 3-27317," February 7.

GEI (2008). "Immediate Response Action Status Report No. 1, Former Manufactured Gas Plant Site, Map 54, Lot 219 Water Street, Amesbury, MA, DEP RTN 3-27317," April 10.

GEI (2008). "Revised Tier Classification and Tier I Permit Application, Map 54, Lot 219, Water Street, Amesbury, MA, RTN 3-24070," May 16.

GEI (2008). "Immediate Response Action Status Report No. 2 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTNs 3-27317 and 3-27455," October 9.

GEI (2009). "Immediate Response Action Status Report No. 3 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTNs 3-27317 and 3-27455, Tier 1B Permit No. E178092," April 8.

GEI (2009). "Phase II Comprehensive Site Assessment, IRA Completion Report, and Phase III Remedial Action Plan, Amesbury Former MGP, Amesbury, MA," July.

GEI, (2009). "Immediate Response Action Status Report No. 4 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-27317, Tier 1B Permit No. E178092," October 8.

GEI (2010). "Immediate Response Action Status Report No. 5 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-27317, Tier 1B Permit No. E178092," April 12.

GEI (2010). "IRA Completion Report and Class C-2 Response Action Outcome Statement, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier 1B Permit No. E178092," July 29.

GEI (2011). "Post-Class C Response Action Outcome Status Report No. 1 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier 1B Permit No. E178092," January 31.

GEI (2011). "Notification of Delay, Phase IV Remedy Implementation Plan, Amesbury Former MGP, Amesbury, MA, RTN 3-24070," June 27.

GEI (2011). "Post-Class C Response Action Outcome Status Report No. 2 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier 1B Permit No. E178092," July 29.

GEI (2012). "Post-Class C Response Action Outcome Status Report No. 3 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier 1B Permit No. E178092," January 27.

GEI (2012). "Post-Class C Response Action Outcome Status Report No. 4 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier IB Permit No. E178092," July 27.

GEI (2013). "Post-Class C Response Action Outcome Status Report No. 5 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier IB Permit No. E178092," January 28.

GEI (2013). "Tier IB Permit Extension Application, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier IB Permit No. E178092," May 13.

GEI (2013). "Post-Class C Response Action Outcome Status Report No. 6 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier IB Permit No. E178092," July 26.

GEI (2014). "Post-Class C Response Action Outcome Status Report No. 7 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070, Tier IB Permit No. E178092," January 23.

GEI (2014). "Post-Temporary Solution Status Report No. 8, Remedial Monitoring Report, and Revised Tier Classification, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 29.

GEI (2015). "Post-Temporary Solution Status Report No. 9 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 28.

GEI (2015). "Post-Temporary Solution Status Report No. 10 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 29.

GEI (2016). "Post-Temporary Solution Status Report No. 11 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 29.

GEI (2016). "Post-Temporary Solution Status Report No. 12 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 29.

GEI (2016). "Phase III Remedial Action Plan Addendum and Phase IV Remedy Implementation Plan, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," October 18.

GEI (2017). "Post-Temporary Solution Status Report No. 13 and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," February 3.

GEI (2017). "Phase IV Status Report, Post-Temporary Solution Status Report No. 14, and Remedial Monitoring Report, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 28.

GEI (2018). "Phase IV Status Report No. 2, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," February 1.

GEI (2018). "Phase IV Status Report No. 3, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 30.

GEI (2019). "Phase IV Status Report No. 4, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 29.

GEI (2019). "Phase IV Status Report No. 5, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," August 1.

GEI (2020). "Phase IV Status Report No. 6, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 31.

GEI (2020). "Phase IV Status Report No. 7, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 29.

GEI (2021). "Phase IV Status Report No. 8, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 29.

GEI (2021). "Phase IV Status Report No. 9, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 29.

GEI (2022). "Phase IV Status Report No. 10, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 24.

GEI (2022). "Phase IV Status Report No. 11, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 27.

GEI (2023). "Phase IV Status Report No. 12, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 27.

GEI (2023). "Phase IV Status Report No. 13, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 31.

GEI (2024). "Phase IV Status Report No. 14, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 26.

GEI (2024). "Phase IV Status Report No. 15, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 23.

GEI (2025). "Phase IV Status Report No. 16, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," January 29.

GEI (2025). "Phase IV Status Report No. 17, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," July 28.

GEI (2025). "Supplemental Phase II Comprehensive Site Assessment, Amesbury Former MGP, Amesbury, Massachusetts, RTN 3-24070," November 3.

Tables

Table 1. Summary of Sample Visual Observations
Phase IV Status Report No. 18
Amesbury Former MGP
Amesbury, Massachusetts

Location ID	Property	Area	Date	Total Depth (feet)	Field Observations (feet)	Depth of Visual Oil/ Tar Impacts (feet)	Readily Apparent Harm (RAH)
894	41 Oakland Street	Mudflat	7/15/2025	1.5	No coal tar or sheen	NA	N
895	41 Oakland Street	Mudflat	7/15/2025	1.5	No coal tar or sheen	NA	N

General Notes:

1. NA = Not Applicable.
2. NM = Not Measured.
3. Total Depth is the penetration of the sediment core and not the recovery of sediment sample.

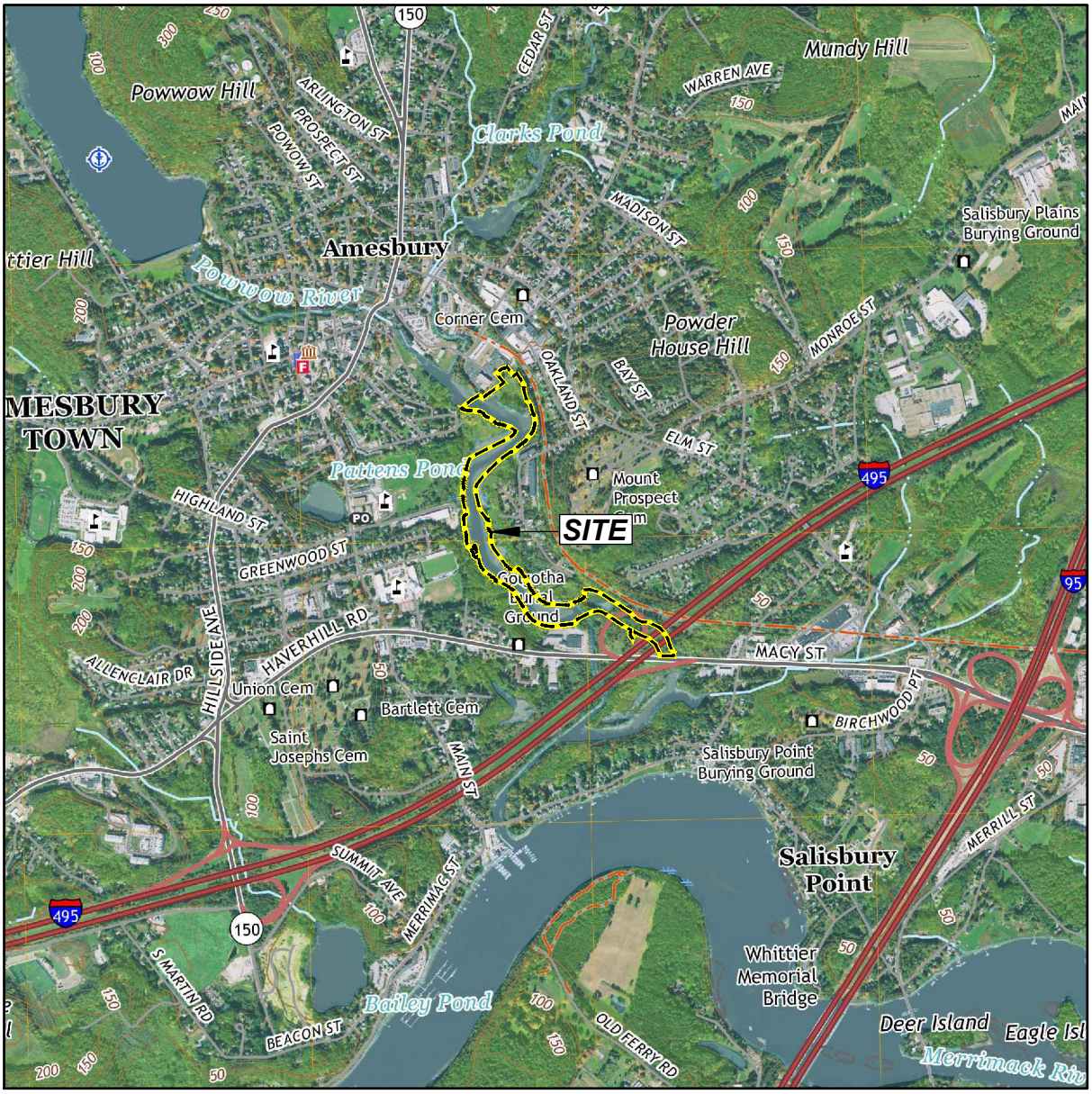
Table 2. Sediment Chemical Testing Results
Phase IV Status Report No. 18
Amesbury Former MGP
Amesbury, Massachusetts

			Sample Location:	**894**		**895**	
			Sample ID:	**894-S1**	**894-S2**	**895-S1**	**895-S2**
			Lab Sample ID:	**F250041-01**	**F250041-02**	**F250041-03**	**F250041-04**
			Property:	**41 Oakland St**	**41 Oakland St**	**41 Oakland St**	**41 Oakland St**
			Area:	**Mudflat**	**Mudflat**	**Mudflat**	**Mudflat**
			Sample Date:	**07/15/2025**	**07/15/2025**	**07/15/2025**	**07/15/2025**
			Soil/Sediment Type:	**Sandy Silt**	**Sandy Silt**	**Sandy Silt**	**Sandy Silt**
			Sample Depth (feet):	**0-1**	**1-1.5**	**0-1**	**1-1.5**
Analyte	**Method**	**Units**	**S-1/GW-3**				
Semivolatile Organic Compounds (SVOCs)	8270	mg/kg					
2-Methylnaphthalene			300	0.084	0.015	0.082	0.126
Acenaphthene			1,000	0.120	0.031	0.078	0.044
Acenaphthylene			10	0.575	0.046	0.389	0.366
Anthracene			1,000	0.487	0.052	0.399	0.682
Benzo(a)anthracene			20	1.62	0.257	1.21	3.21
Benzo(a)pyrene			2	2.07	0.273	1.47	3.48
Benzo(b)fluoranthene			20	1.46	0.169	1.05	1.81
Benzo(g,h,i)perylene			1,000	1.33	0.138	0.928	1.72
Benzo(k)fluoranthene			70	1.48	0.221	1.09	2.19
Chrysene			200	2.01	0.276	1.53	3.30
Dibenzo(a,h)anthracene			2	0.318	0.0432	0.254	0.494
Fluoranthene			1,000	2.49	0.303	1.930	3.74
Fluorene			1,000	0.110	0.0168	0.105	0.119
Indeno(1,2,3-cd)pyrene			20	1.22	0.148	0.966	1.55
Naphthalene			500	0.143	0.0184	0.0960	0.137
Phenanthrene			500	0.784	0.104	0.679	1.10
Pyrene			1,000	3.55	0.455	2.58	6.36
Total PAHs			NS	19.85	2.567	14.84	30.428
General Chemistry/Other							
Total Organic Carbon	LK	mg/kg	NS	71,200	26,500	65,700	48,300

General Notes:

1. In general, analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Method 1 Standards (e.g., S-1/GW-3), where identified, are cited from the MCP.
5. NS = No standard or criteria has been established for this analyte.
6. Values in bold exceed S-1/GW-3 standards. However, comparison to these standards is for reference only since the standards only apply to soil and the samples in the table are sediment.
7. mg/kg = milligrams per kilogram.
8. Samples were analyzed for parent and alkylated mono- and poly-cyclic aromatic hydrocarbons (MAHs and PAHs) and saturated hydrocarbons by GC/FID. Only the standard 17 PAHs are summarized on this table. Refer to the laboratory data report for the full results.
9. Chrysene includes its isomer triphenylene.
10. NT = Not tested.

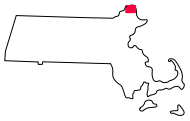
Figures



0 1000 2000 4000 6000

SCALE, FEET

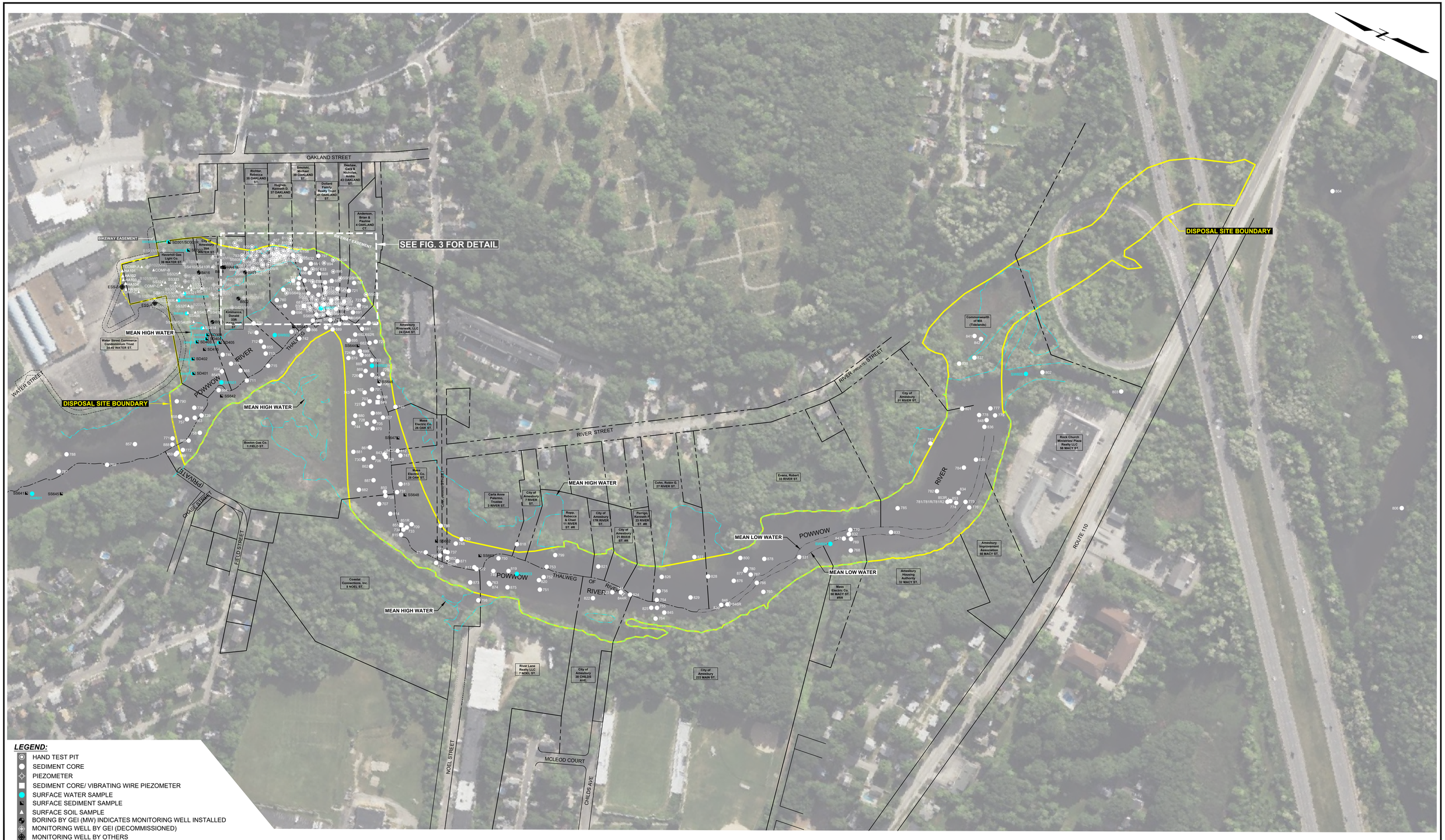
This Image is from U.S.G.S. Topographic 7.5 Minute Series
Newburyport West, MA-NH Quadrangle, 2021.
Datum is North American Vertical Datum of 1988 (NAVD88).
Contour Interval is 10 Feet.



MASSACHUSETTS
QUADRANGLE LOCATION

Phase IV Status Report No. 18 Amesbury Former MGP Amesbury, Massachusetts	GEI Consultants	SITE LOCATION MAP
Boston Gas Company d|b|a National Grid Waltham, Massachusetts	Project 1804576	January 2026 Fig. 1

B:\Working\NATIONAL GRID\1804576 Amesbury MGP\00_CAD\Figures\Ph IV SR\1804576-38



LEGEND:

- HAND TEST PIT
- SEDIMENT CORE
- PIEZOMETER
- SEDIMENT CORE/ VIBRATING WIRE PIEZOMETER
- SURFACE WATER SAMPLE
- SURFACE SEDIMENT SAMPLE
- SURFACE SOIL SAMPLE
- BORING BY GEI (MW) INDICATES MONITORING WELL INSTALLED
- MONITORING WELL BY GEI (DECOMMISSIONED)
- MONITORING WELL BY OTHERS

NOTES:

1. MICROSOFT BING IMAGE 2021.
2. PARCEL BOUNDARIES, THALWEG OF RIVER, AND MEAN HIGH WATER LINE PROVIDED BY HAYNER/SWANSON, INC., 2025.
3. SEDIMENT CORE AND PIEZOMETER LOCATIONS ARE GPS-LOCATED. HAND TEST PIT, SURFACE SAMPLE, AND SEDIMENT SAMPLE LOCATIONS ARE APPROXIMATE.

0 150 300
Approximate Scale, Feet

Phase IV Status Report No. 18 Amesbury Former MGP Amesbury, Massachusetts	GEI Consultants	RIVER SAMPLING LOCATIONS
Boston Gas Company d|b|a National Grid Waltham, Massachusetts	Project 1804576	January 2026 Fig. 2

---- B:\Working\NATIONAL GRID\1804576 Amesbury MGP\00_CAD\Figures\Ph IV SR\1804576-39.dwg - 1/14/2026

33R OAKLAND STREET
35 OAKLAND STREET
37 OAKLAND STREET
39 OAKLAND STREET
41 OAKLAND STREET
43 OAKLAND STREET
4 OAKLAND COURT
BIKEWAY EASEMENT
DISPOSAL SITE BOUNDARY

LEGEND:

- HAND TEST PIT
- SEDIMENT CORE
- SEDIMENT PROBE
- PIEZOMETER
- SEDIMENT CORE/ VIBRATING WIRE PIEZOMETER
- SURFACE WATER SAMPLE
- SURFACE SEDIMENT SAMPLE
- HAND TEST PIT (VISUAL OBSERVATION)

NOTES:

1. GOOGLE EARTH IMAGE DATED 5/04/2018.
2. HAND TEST PIT, SURFACE SAMPLE, AND SEDIMENT SAMPLE LOCATIONS ARE APPROXIMATE.
3. PARCEL BOUNDARIES, THALWEG OF RIVER AND MEAN HIGH WATER LINE BY HAYNER/SWANSON, 2025.

0 30 60
Approximate Scale, Feet

Phase IV Status Report No. 18
Amesbury Former MGP Site
Amesbury, Massachusetts

Boston Gas Company d|b|a National Grid
Waltham, Massachusetts

GEI Consultants

WETLAND AND MUDFLAT SAMPLING LOCATIONS

Project 1804576 | January 2026 | Fig. 3

---- B:\Working\NATIONAL GRID\1804576 Amesbury MGP\00_CAD\Figures\Ph IV SR\1804576-40.dwg - 12/17/2025

Appendix A MassDEP Transmittal Form

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 24070

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: KEYSPAN PROPERTY MAP 54 PARCEL 219

2. Street Address: WATER ST

3. City/Town: AMESBURY 4. ZIP Code: 019130000

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit an **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☑ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☐ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☐ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☐ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT
Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 6581

2. First Name: JAMES R 3. Last Name: ASH

4. Telephone: 7817214018 5. Ext.: 6. Email: jash@geiconsultants.com

7. Signature: JAMES R ASH

8. Date: 1/29/2026 (mm/dd/yyyy)

9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☑ c. change in the person undertaking response actions

2. Name of Organization: BOSTON GAS COMPANY

3. Contact First Name: AARON 4. Last Name: TOWNSLEY

5. Street: 170 DATA DRIVE 6. Title: MANAGER NE SITE INV & REM

7. City/Town: WALTHAM 8. State: MA 9. ZIP Code: 024512222

10. Telephone: 7819063985 11. Ext: 12. Email: aaron.townsley@nationalgrid.com

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: NON-SPECIFIED PRP

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☐ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@Mass.Gov.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data including, but not limited to: pressure measurements, maps, graphs, or diagrams, and other information is attached.

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, AARON TOWNSLEY, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: AARON TOWNSLEY (Signature) 3. Title: MANAGER NE SITE INV & REM

4. For: BOSTON GAS COMPANY (Name of person or entity recorded in Section D) 5. Date: 1/29/2026 (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street:

8. City/Town: 9. State: 10. ZIP Code:

11. Telephone: 12. Ext.: 13. Email:

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Received by DEP on 1/29/2026 4:16:37 PM

Appendix B Property Owner Notification

Kenneth E. Lento
Project Manager
NE Site Investigation and Remediation Group

May 30, 2024

Jane Hoggard
41 Oakland Street
Amesbury, MA 01913

RE: Access Agreement
41 Oakland Street property

Dear Ms. Hoggard:

Thank you for your patience as we continue the environmental investigations in the Powwow River. We have completed investigations on nearby properties over the past year. Based on analysis of the data from those investigations, we are required to collect additional information to define the extent of compounds of concern within the river on your property. Since these new investigation activities were not contemplated in the original access agreement, we need to update that access agreement to have you grant permission for this additional work. As such, please find attached an amendment to the access agreement allowing us this permission to perform this work. The terms of the original agreement remain in effect. If this amendment is acceptable, please sign where indicated and send back to me at your earliest convenience.

Please note that the survey of your property per the original scope of work included in the original access agreement has been initiated but has not yet been completed. We hope to have our surveyors complete this survey in the coming weeks. Once the survey and these additional investigations are completed, we would like to discuss the results with you.

We appreciate your cooperation in this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Kenneth E. Lento
Project Manager

170 Data Drive, Waltham, Massachusetts 02451
T: 781.663.3123 ■ F: 781.907.5720 ■ kenneth.lento@nationalgrid.com ■ www.amesburymgpsite.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 24070

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 39 Water Street

City/Town: Amesbury, MA Zip Code: 01913

B. This notice is being provided to the following party:

1. Name: Jane F Hoggard

2. Street Address: 41 Oakland St

City/Town: Amesbury, MA Zip Code: 01913

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 41 Oakland St

City/Town: Amesbury, MA Zip Code: 01913

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☑ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other river (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Sampling includes sediment from river.

E. Contact information related to the party providing this notice:

Contact Name: Boston Gas Co. d/b/a National Grid c/o Ken Lento

Street Address: 170 Data Drive

City/Town: Waltham Zip Code: 02451-2222

Telephone: (781) 663-3123 Email: kenneth.lento@nationalgrid.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 24070

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

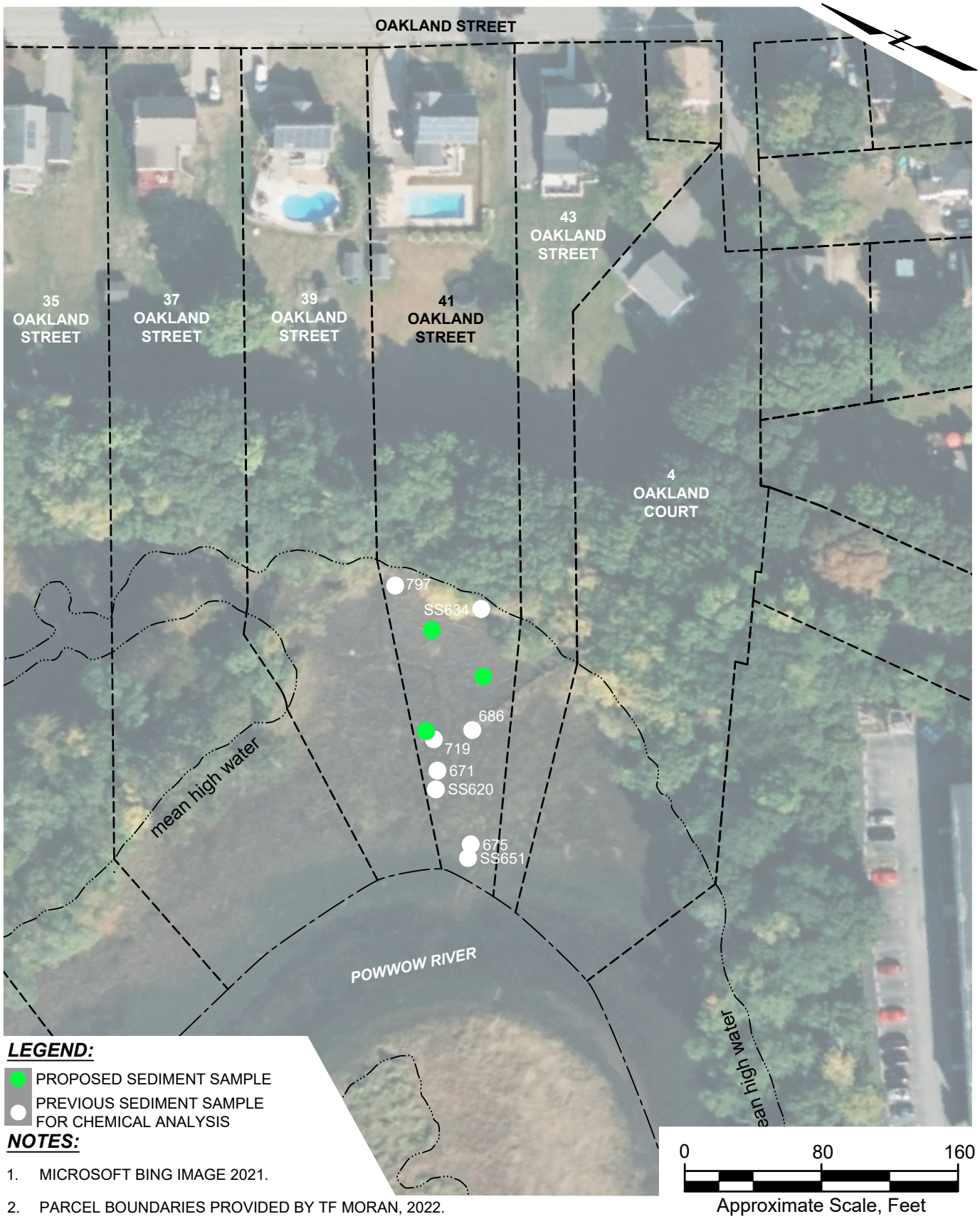
When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.



Amesbury MGP Amesbury, Massachusetts	GEI Consultants	SAMPLING LOCATIONS 41 OAKLAND STREET
Boston Gas Company d|b|a National Grid Waltham, Massachusetts	Project 1804576	April 2024 Fig. 1

CLINGEN, PAUL B:\Working\NATIONAL GRID\1804576 Amesbury MGP\00_CAD\Figures\Sampling Plan 2022\1804576 OAKLAND ST 41.dwg - 4/26/2024

Kenneth E. Lento
Project Manager
NE Site Investigation and Remediation Group

September 15, 2025

Jane Hoggard
41 Oakland Street
Amesbury, MA 01913

RE: Sampling Results
41 Oakland Street property

Dear Ms. Hoggard:

As part of our ongoing environmental investigation activities ("Activities") within the Powwow River, Boston Gas Company d/b/a National Grid ("BGC") is providing you the analytical results for sediment samples recently collected in July 2025 on the 41 Oakland Street property. The Activities are being conducted to refine the extent of Manufactured Gas Plant ("MGP") residuals within the Powwow River as part of response actions pursuant to the Massachusetts Contingency Plan ("MCP").

The attached submittal includes a sample notification form, a figure showing the sample locations, a table summarizing the sample information collected to date, and the laboratory data package for the recently collected samples. The recent samples submitted for laboratory chemical analysis were collected from multiple locations. The chemical analysis results for the recent samples are highlighted on the attached summary table.

If you have any questions, please contact me via e-mail or telephone as provided below.

Sincerely,

Kenneth E. Lento
Project Manager

170 Data Drive, Waltham, Massachusetts 02451
T: 781.663.3123 ■ F: 781.907.5720 ■ kenneth.lento@nationalgrid.com ■ www.amesburymgpsite.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 24070

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 39 Water Street

City/Town: Amesbury, MA Zip Code: 01913

B. This notice is being provided to the following party:

1. Name: Jane F Hoggard
2. Street Address: 41 Oakland St

City/Town: Amesbury, MA Zip Code: 01913

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 41 Oakland St

City/Town: Amesbury, MA Zip Code: 01913

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☑ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other river (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Sampling includes sediment from river.

E. Contact information related to the party providing this notice:

Contact Name: Boston Gas Co. d/b/a National Grid c/o Ken Lento
Street Address: 170 Data Drive
City/Town: Waltham Zip Code: 02451-2222
Telephone: (781) 663-3123 Email: kenneth.lento@nationalgrid.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 24070

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

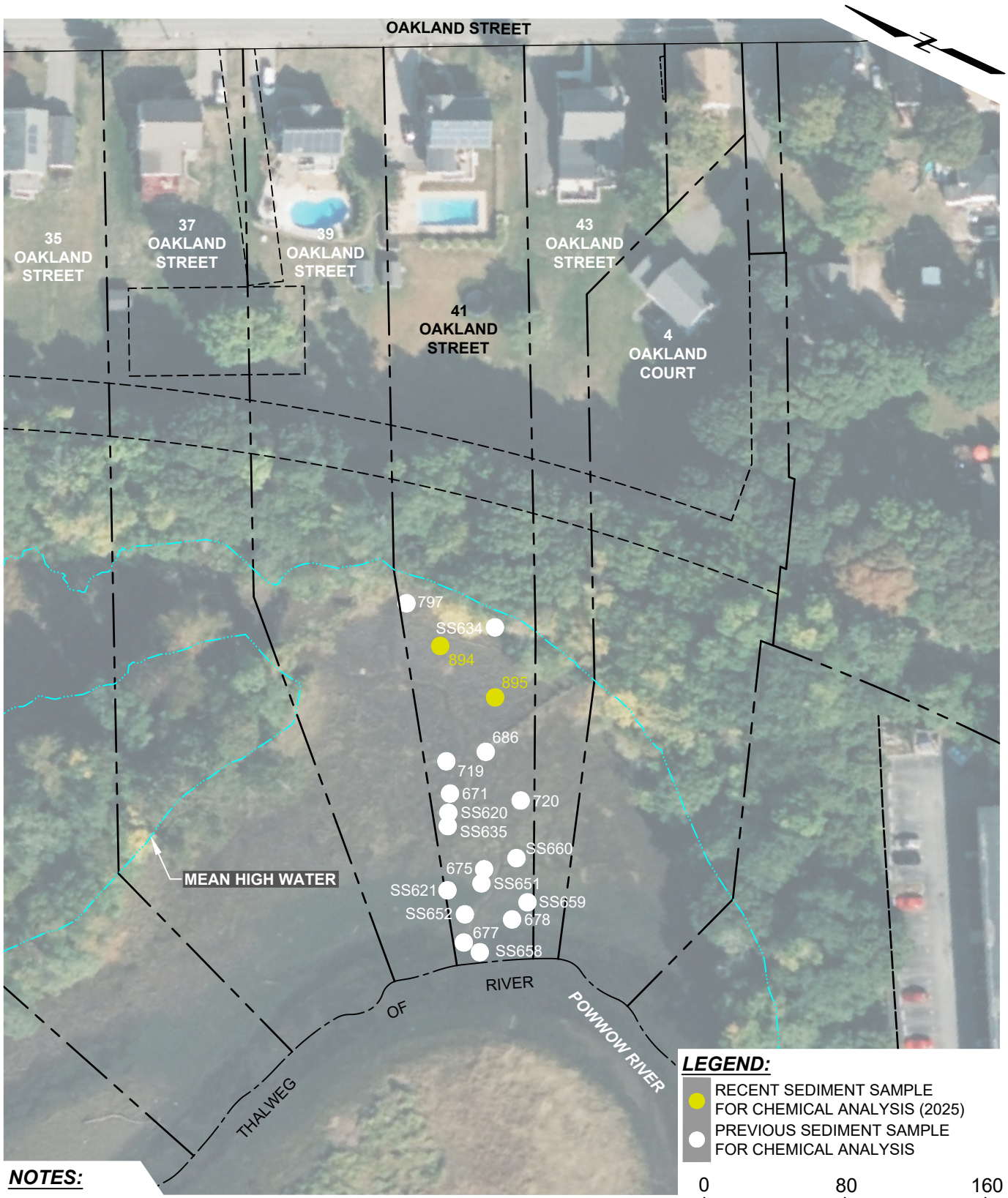
When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.



NOTES:

1. PROPERTY BOUNDARIES, THALWEG OF RIVER AND MEAN HIGH WATER PROVIDED BY HAYNER/SWANSON, 2025.
2. MICROSOFT BING IMAGE 2021.

Amesbury MGP Amesbury, Massachusetts	GEI Consultants	SAMPLING LOCATIONS 41 OAKLAND STREET
Boston Gas Company d|b|a National Grid Waltham, Massachusetts	Project 1804576	September 2025 Fig. 1

CLINGEN, PAUL B:\Working\NATIONAL GRID\1804576 Amesbury MGP\00_CAD\Figures\Sampling Plan 2022\1804576 OAKLAND ST 41.dwg - 9/9/2025

Table 1. Sediment Chemical Testing Results
Amesbury Former MGP
Amesbury, Massachusetts

Recent samples highlighted

			Sample Location:	SS620	SS621	SS634	SS651	SS652	SS658	SS659	SS660	671		675	677				678		686	719	720		797	
			Sample ID:	SS620	SS621	SS634	SS651	SS652	SS658	SS659	SS660	SS671-S1	SS671-S2	SS675-S2	SS677-S2	SS677-S3	SS677-S4A	SS677-S5A	SS678-S1	SS678-S4	SS686-S3	SS719-S1	SS720-S1	SS720-S2	SS797-S1	SS797-S1D
			Lab Sample ID:	F180046	F180046	F180070	F190024	F190024	F190025	F190025	F190025	F190046	F190046	F190048	F190040	F190040	F190040	F190040	F190040	F190039	F190050	F190056	F190057	F190057	F200036	F200036
			Property:	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St	41 Oakland St
			Sample Date:	08/15/2018	08/15/2018	12/17/2018	4/23/2019	4/23/2019	4/24/2019	4/24/2019	4/24/2019	09/23/2019	09/23/2019	09/24/2019	09/11/2019	09/11/2019	09/11/2019	09/11/2019	09/11/2019	09/11/2019	09/10/2019	11/11/2019	11/12/2019	11/12/2019	7/14/2020	7/14/2020
			Sample Depth (feet):	0-2.5	0-1.8	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	1.3-1.5	1.9-2.1	1.9-2.1	0-1	1.4-1.6	2.6-2.8	3.9-4	0-0.5	4.4-4.6	1.9-2.1	0-0.1	0.7-0.8	1.4-1.5	0-1	0-1
Analyte	**Method**	**Units**	**S-1/GW-3**																							
Volatile Organic Compounds (VOCs)	8260	mg/kg				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzene			40	< 0.475	< 0.418																					
Ethylbenzene			500	< 0.475	< 0.418																					
Toluene			500	< 0.475	< 0.418																					
Xylene, o-			500	< 0.475	< 0.418																					
Xylene p,m-			500	< 0.951	< 0.836																					
Xylenes, Total			500	< 0.951	< 0.836																					
Semivolatile Organic Compounds (SVOCs)	8270	mg/kg																								
2-Methylnaphthalene			300	0.028	0.584	0.00472	0.209	0.256	2.26	0.222	0.141	0.672	< 0.00898	1.3	0.975	0.0686	1.1	2.45	0.271	5.37	0.0277	0.252	0.896	0.0167	0.077	0.054
Acenaphthene			1,000	0.153	3.43	0.0454	4.04	2.59	41.0	3.08	1.57	1.28	0.00529	8.62	4.72	6.45	17.3	19.0	3.67	309	0.0277	3.44	2.9	0.0188	0.282	0.179
Acenaphthylene			10	0.095	2.75	0.0438	2.71	2.62	**19.4**	1.95	0.840	**10.4**	0.0172	0.231	0.762	0.123	0.694	2.88	2.22	**18.7**	0.02	2.61	2.17	0.0346	0.534	0.274
Anthracene			1,000	0.178	9.65	0.144	6.74	9.52	51.8	3.74	1.97	19.4	0.00617	18.0	20.1	0.691	6.53	42.2	5.38	201	0.118	4.52	7.38	0.0435	0.739	0.325
Benzo(a)anthracene			20	0.263	8.52	0.474	11.4	8.53	**72.7**	6.86	3.37	**47**	0.00638	**24.5**	**21.0**	0.659	2.93	**23.5**	9.33	**132**	0.252	8.16	11.4	0.108	1.43	0.608
Benzo(a)pyrene			2	0.265	**9.74**	0.406	**15.3**	**10.6**	**92.2**	**8.97**	**4.49**	**77.2**	< 0.00898	**23.1**	**14.6**	0.55	**2.72**	**20.5**	**10.7**	**106**	0.147	**10.4**	**11.9**	0.09620	1.66	0.702
Benzo(b)fluoranthene			20	0.229	6.19	0.267	8.23	6.11	**43.9**	5.40	2.67	**29.2**	< 0.00898	16.7	11.5	0.453	2.19	9.86	5.96	**49.5**	0.124	5.59	9.32	0.0722	1.16	0.539
Benzo(g,h,i)perylene			1,000	0.139	4.82	0.163	7.44	5.66	43.9	4.82	2.43	33	< 0.00898	11.6	6.83	0.311	1.56	7.08	5.78	49.1	0.0603	6.09	7.91	0.0467	0.957	0.458
Benzo(k)fluoranthene			70	0.204	6.51	0.368	8.16	5.90	49.7	5.51	3.01	35.6	< 0.00898	17.9	12.3	0.45	2.14	11.9	6.63	**70.5**	0.159	6.45	9.46	0.0896	1.22	0.541
Chrysene			200	0.277	8.81	0.441	9.73	8.39	50.6	6.02	3.20	45.2	0.00632	23.2	17.3	0.718	2.79	20.5	7.55	125	0.26	7.5	12.2	0.113	1.51	0.687
Dibenzo(a,h)anthracene			2	0.041	1.31	0.06	1.50	1.12	**7.94**	0.937	0.52	**5.57**	< 0.00898	**3.14**	**2.25**	0.0833	0.429	1.77	1.23	**11.2**	0.0226	1.09	1.78	0.0145	0.241	0.114
Fluoranthene			1,000	0.527	17.1	0.548	27.6	20.8	182	16.6	6.65	105	0.03	61.5	58.5	1.88	11.0	45.8	19.8	295	0.478	16.9	31.8	0.205	3.12	1.49
Fluorene			1,000	0.075	2.16	0.0158	2.30	1.58	22.7	1.61	0.869	0.93	< 0.00898	7.5	7.28	0.554	9.52	9.16	2.05	149	0.0446	1.43	2.6	0.0285	0.224	0.102
Indeno(1,2,3-cd)pyrene			20	0.170	5.64	0.180	7.82	5.91	**45.9**	5.14	2.63	**30.2**	< 0.00898	13	6.75	0.255	1.42	5.81	4.65	**39.3**	0.0682	5.63	8.07	0.05	0.945	0.445
Naphthalene			500	0.034	0.792	0.0075	0.485	0.683	3.15	0.519	0.310	1.95	0.00916	2.55	0.815	0.153	4.72	10.3	0.531	10.2	0.038	0.62	1.68	0.0207	0.212	0.131
Phenanthrene			500	0.269	13.9	0.0447	19.9	15.8	215	12.5	5.67	32.8	0.00492	62.3	55.7	2.03	27.2	66.4	18.3	**669**	0.251	12.7	19.9	0.0984	1.39	0.454
Pyrene			1,000	0.653	21.7	0.606	38.6	28.8	267	22.3	8.69	158	0.027	52.2	46.3	2.1	11.5	67.2	26.8	421	0.422	24.4	38	0.211	3.8	2.01
Total PAHs			NS	3.60	124	3.82	172	135	1,211	106	49.0	633	0.108	347	288	17.5	106	366	131	2,661	2.52	118	179	1.27	19.5	9.11
Petroleum Hydrocarbons	8015 Mod	mg/kg				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
TPH (C8-C40)			1,000	272	**3,570**																					
General Chemistry/Other																										
Physiologically Available Cyanide (PAC)	MA PAC	mg/kg	30	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Cyanide	9014	mg/kg	30	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Organic Carbon	LK	mg/kg	NS	NT	76,700	74,700	91,900	45,600	44,300	95,900	95,600	36,900	20,800	41,100	12,500	57,000	13,300	29,100	43,500	87,400	35,000	49,100	69,700	29,900	34,200	43,800
Percent Solids	5035	%	NS	59	55	48	43	65	75	35	44	66	44	80	82	50	77	82	56	62	64	52	57	64	63	64

General Notes:

1. In general, analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Method 1 Standards (e.g., S-1/GW-3), where identified, are cited from the MCP.
5. NS = No standard or criteria has been established for this analyte.
6. Values in bold exceed S-1/GW-3 standards. However, comparison to these standards is for reference only since the standards only apply to soil and the samples in the table are sediment.
7. mg/kg = milligrams per kilogram.
8. Samples were analyzed for parent and alkylated mono- and poly-cyclic aromatic hydrocarbons (MAHs and PAHs) and saturated hydrocarbons by GC/FID. Only the standard 17 PAHs are summarized on this table. Refer to the laboratory data report for the full results.
9. Chrysene includes its isomer triphenylene.
10. NT = Not tested.

Table 1. Sediment Chemical Testing Results
Amesbury Former MGP
Amesbury, Massachusetts

Recent samples highlighted

			Sample Location:	**894**		**895**	
			Sample ID:	**894-S1**	**894-S2**	**895-S1**	**895-S2**
			Lab Sample ID:	**F250041-01**	**F250041-02**	**F250041-03**	**F250041-04**
			Property:	**41 Oakland St**	**41 Oakland St**	**41 Oakland St**	**41 Oakland St**
			Sample Date:	**07/15/2025**	**07/15/2025**	**07/15/2025**	**07/15/2025**
			Sample Depth (feet):	**0-1**	**1-1.5**	**0-1**	**1-1.5**
Analyte	**Method**	**Units**	**S-1/GW-3**				
Volatile Organic Compounds (VOCs)	8260	mg/kg		NT	NT	NT	NT
Benzene			40				
Ethylbenzene			500				
Toluene			500				
Xylene, o-			500				
Xylene p,m-			500				
Xylenes, Total			500				
Semivolatile Organic Compounds (SVOCs)	8270	mg/kg					
2-Methylnaphthalene			300	0.084	0.015	0.082	0.126
Acenaphthene			1,000	0.120	0.031	0.078	0.044
Acenaphthylene			10	0.575	0.046	0.389	0.366
Anthracene			1,000	0.487	0.052	0.399	0.682
Benzo(a)anthracene			20	1.62	0.257	1.21	3.21
Benzo(a)pyrene			2	2.07	0.273	1.47	3.48
Benzo(b)fluoranthene			20	1.46	0.169	1.05	1.81
Benzo(g,h,i)perylene			1,000	1.33	0.138	0.928	1.72
Benzo(k)fluoranthene			70	1.48	0.221	1.09	2.19
Chrysene			200	2.01	0.276	1.53	3.30
Dibenzo(a,h)anthracene			2	0.318	0.0432	0.254	0.494
Fluoranthene			1,000	2.49	0.303	1.930	3.74
Fluorene			1,000	0.110	0.0168	0.105	0.119
Indeno(1,2,3-cd)pyrene			20	1.22	0.148	0.966	1.55
Naphthalene			500	0.143	0.0184	0.0960	0.137
Phenanthrene			500	0.784	0.104	0.679	1.10
Pyrene			1,000	3.55	0.455	2.58	6.36
Total PAHs			NS	19.9	2.57	14.8	30.4
Petroleum Hydrocarbons	8015 Mod	mg/kg		NT	NT	NT	NT
TPH (C8-C40)			1,000				
General Chemistry/Other							
Physiologically Available Cyanide (PAC)	MA PAC	mg/kg	30	NT	NT	NT	NT
Total Cyanide	9014	mg/kg	30	NT	NT	NT	NT
Total Organic Carbon	LK	mg/kg	NS	71,200	26,500	65,700	48,300
Percent Solids	5035	%	NS	33	64	48	54

General Notes:

1. In general, analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Method 1 Standards (e.g., S-1/GW-3), where identified, are cited from the MCP.
5. NS = No standard or criteria has been established for this analyte.
6. Values in bold exceed S-1/GW-3 standards. However, comparison to these standards is for reference only since the standards only apply to soil and the samples in the table are sediment.
7. mg/kg = milligrams per kilogram.
8. Samples were analyzed for parent and alkylated mono- and poly-cyclic aromatic hydrocarbons (MAHs and PAHs) and saturated hydrocarbons by GC/FID. Only the standard 17 PAHs are summarized on this table. Refer to the laboratory data report for the full results.
9. Chrysene includes its isomer triphenylene.
10. NT = Not tested.

CERTIFICATE OF ANALYSIS

Ryan Hoffman
GEI
400 Unicorn Park Drive
Woburn, MA 01801

RE: Amesbury Former MGP (1804576)
ESS Laboratory Work Order Number: F250041

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By Normand Laurianno Jr. at 7:59 am, Aug 21, 2025

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses
ESS - Cranston, RI TOC

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

SAMPLE RECEIPT

The following samples were received on July 15, 2025 for the analyses specified on the enclosed Chain of Custody Record.

Revision 1 August 21, 2025: This report has been revised to include additional compounds.

Lab Number	Sample Name	Matrix	Analysis
F250041-01	1804576-894-S1	Sediment	8270 Mod, TOC-LK
F250041-02	1804576-894-S2	Sediment	8270 Mod, TOC-LK
F250041-03	1804576-895-S1	Sediment	8270 Mod, TOC-LK
F250041-04	1804576-895-S2	Sediment	8270 Mod, TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

PROJECT NARRATIVE

Alkylated PAHs

F250041-02	**Present in Method Blank (B).**
	Benzene
F250041-03	**Present in Method Blank (B).**
	Benzene
F250041-04	**Present in Method Blank (B).**
	Benzene
FG51701-DUP1	**Relative percent difference for duplicate is outside of criteria (D+).**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015B Mod - TPH by GCFID
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D Mod - Alkylated PAHs and Benzenes
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3511 - Microsolvent Extraction Aqueous
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3570 - Microsolvent Extraction Soild
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	**158** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzene	**297** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzenes	**386** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzenes	**69.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzenes	**55.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C5-Benzenes	**40.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Methylcyclohexane	**J 8.37** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Toluene	**380** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Ethylbenzene	**19.3** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
m,p-Xylene	**539** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Styrene	**162** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
o-Xylene	**20.7** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Isopropylbenzene	**J 8.23** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
n-Propylbenzene	**15.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1,3,5-Trimethylbenzene	**J 10.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1,2,3-Trimethylbenzene	**J 11.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1,2,4-Trimethylbenzene	**20.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
t-Butylbenzene	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
sec-Butylbenzene	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
p-Isopropyltoluene	**20.2** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
n-Butylbenzene	**31.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
trans-Decalin	**J 9.86** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
cis-Decalin	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Decalins	**21.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Decalins	**37.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Decalins	**32.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Decalins	**65.4** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)thiophene	**J 9.73** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzo(b)thiophenes	**24.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzo(b)thiophenes	**20.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzo(b)thiophenes	**J 10.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzo(b)thiophenes	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**143** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylnaphthalene	**83.5** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methylnaphthalene	**47.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Naphthalenes	**79.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Naphthalenes	**174** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Naphthalenes	**118** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Naphthalenes	**125** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Biphenyl	**41.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Acenaphthylene	**575** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Acenaphthene	**120** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dibenzofuran	**38.3** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Fluorene	**110** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Fluorenes	**135** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Fluorenes	**258** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Fluorenes	**275** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dibenzothiophene	**78.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Dibenzothiophenes	**103** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Dibenzothiophenes	**162** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Dibenzothiophenes	**134** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Dibenzothiophenes	**77.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Phenanthrene	**784** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Anthracene	**487** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**1010** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**1090** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**612** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**282** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Retene	**203** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**198** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzonaphthothiophenes	**256** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzonaphthothiophenes	**213** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzonaphthothiophenes	**152** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzonaphthothiophenes	**66.5** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**2490** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Pyrene	**3550** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**2680** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**1340** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**288** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)fluorene	**206** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(c)fluorene	**90.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylpyrene	**416** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
4-Methylpyrene	**517** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methylpyrene	**350** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benz(a)anthracene	**1620** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Chrysene/triphenylene	**2010** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**1490** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**794** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**363** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**178** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)fluoranthene	**1460** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(j/k)fluoranthene	**1480** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(e)pyrene	**1790** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(a)pyrene	**2070** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Perylene	**430** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**1220** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dibenzo(a,h)anthracene	**318** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(g,h,i)perylene	**1330** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Coronene	**357** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Tetramethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Trimethylethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dimethyldiethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Methyltriethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Tetraethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Total Organic Lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**42.4** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**181** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**104** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C-17	**447** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Pristane	**238** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C-18	**193** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Phytane	**229** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Carbazole	**70.5** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,6-Dimethylnaphthalene	**80.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,3,5-Trimethylnaphthene	**J 7.90** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
4-Methyldibenzothiophene	**40.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2/3-Methyldibenzothiophene	**32.3** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methyldibenzothiophene	**12.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
3-Methylphenanthrene	**232** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylphenanthrene	**185** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylanthracene	**131** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
4/9-Methylphenanthrene	**322** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methylphenanthrene	**119** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*73 %*		*50-120*
Surrogate: Perylene-d12	*76 %*		*50-120*
Surrogate: Phenanthrene-d10	*80 %*		*50-120*
Surrogate: Toluene-D8	*60 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**71200** (500)		TOC-LK		1	CCP	07/23/25 14:50	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	B **29.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzene	**67.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzenes	**48.8** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzenes	**8.63** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzenes	**21.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C5-Benzenes	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Methylcyclohexane	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Toluene	**87.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Ethylbenzene	J **2.95** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
m,p-Xylene	**62.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Styrene	**17.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
o-Xylene	J **3.83** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Isopropylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
n-Propylbenzene	J **2.81** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1,3,5-Trimethylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1,2,3-Trimethylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1,2,4-Trimethylbenzene	J **3.01** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
t-Butylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
sec-Butylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
p-Isopropyltoluene	**11.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
n-Butylbenzene	**5.32** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
trans-Decalin	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
cis-Decalin	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Decalins	J **4.04** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Decalins	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Decalins	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Decalins	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)thiophene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzo(b)thiophenes	J **3.51** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzo(b)thiophenes	J **4.85** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzo(b)thiophenes	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzo(b)thiophenes	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**18.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylnaphthalene	**15.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methylnaphthalene	**9.86** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Naphthalenes	**15.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Naphthalenes	**22.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Naphthalenes	**17.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Naphthalenes	**18.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Biphenyl	**9.27** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Acenaphthylene	**45.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Acenaphthene	**30.8** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dibenzofuran	**5.85** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Fluorene	**16.8** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Fluorenes	**19.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Fluorenes	**35.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Fluorenes	**34.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dibenzothiophene	**9.28** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Dibenzothiophenes	**17.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Dibenzothiophenes	**26.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Dibenzothiophenes	**20.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Dibenzothiophenes	**22.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Phenanthrene	**104** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Anthracene	**52.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**146** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**161** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**121** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**96.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Retene	**207** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**28.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzonaphthothiophenes	**53.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzonaphthothiophenes	**39.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzonaphthothiophenes	**26.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzonaphthothiophenes	**9.42** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**303** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Pyrene	**455** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**435** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**231** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**54.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)fluorene	**52.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(c)fluorene	**20.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylpyrene	**63.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
4-Methylpyrene	**61.6** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methylpyrene	**45.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benz(a)anthracene	**257** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Chrysene/triphenylene	**276** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**266** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**180** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**77.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**44.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)fluoranthene	**169** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(j/k)fluoranthene	**221** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(e)pyrene	**197** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(a)pyrene	**273** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Perylene	**206** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**148** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dibenzo(a,h)anthracene	**43.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(g,h,i)perylene	**138** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Coronene	**36.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Tetramethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Trimethylethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dimethyldiethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Methyltriethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Tetraethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Total Organic Lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**7.20** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**41.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**8.69** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C-17	**79.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Pristane	**22.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C-18	**169** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Phytane	**14.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Carbazole	**J 4.28** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,6-Dimethylnaphthalene	**8.86** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,3,5-Trimethylnaphthene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
4-Methyldibenzothiophene	**5.94** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2/3-Methyldibenzothiophene	**5.37** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methyldibenzothiophene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
3-Methylphenanthrene	**31.9** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylphenanthrene	**27.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylanthracene	**22.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
4/9-Methylphenanthrene	**39.6** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methylphenanthrene	**17.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*72 %*		*50-120*
Surrogate: Perylene-d12	*75 %*		*50-120*
Surrogate: Phenanthrene-d10	*76 %*		*50-120*
Surrogate: Toluene-D8	*71 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**26500** (500)		TOC-LK		1	CCP	07/23/25 15:06	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	**B 82.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzene	**217** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzenes	**286** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzenes	**60.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzenes	**62.5** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C5-Benzenes	**49.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Methylcyclohexane	**34.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Toluene	**265** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Ethylbenzene	**12.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
m,p-Xylene	**408** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Styrene	**30.2** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
o-Xylene	**14.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Isopropylbenzene	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
n-Propylbenzene	**9.20** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1,3,5-Trimethylbenzene	**13.8** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1,2,3-Trimethylbenzene	**10.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1,2,4-Trimethylbenzene	**17.7** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
t-Butylbenzene	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
sec-Butylbenzene	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
p-Isopropyltoluene	**22.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
n-Butylbenzene	**19.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
trans-Decalin	**15.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
cis-Decalin	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Decalins	**33.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Decalins	**59.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Decalins	**58.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Decalins	**124** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)thiophene	**J 6.42** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzo(b)thiophenes	**13.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzo(b)thiophenes	**25.5** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzo(b)thiophenes	**16.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzo(b)thiophenes	**13.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**96.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylnaphthalene	**82.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methylnaphthalene	**71.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Naphthalenes	**91.2** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Naphthalenes	**301** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Naphthalenes	**367** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Naphthalenes	**297** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Biphenyl	**36.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Acenaphthylene	**389** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Acenaphthene	**78.2** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dibenzofuran	**39.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Fluorene	**105** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Fluorenes	**196** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Fluorenes	**372** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Fluorenes	**371** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dibenzothiophene	**74.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Dibenzothiophenes	**129** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Dibenzothiophenes	**230** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Dibenzothiophenes	**186** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Dibenzothiophenes	**90.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Phenanthrene	**679** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Anthracene	**399** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**869** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**1040** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**697** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**302** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Retene	**117** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**180** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzonaphthothiophenes	**278** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzonaphthothiophenes	**238** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzonaphthothiophenes	**174** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzonaphthothiophenes	**47.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**1930** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Pyrene	**2580** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**1990** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**1090** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**250** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)fluorene	**181** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(c)fluorene	**68.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylpyrene	**310** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
4-Methylpyrene	**349** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methylpyrene	**236** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benz(a)anthracene	**1210** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Chrysene/triphenylene	**1530** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**1220** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**772** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**371** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**194** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)fluoranthene	**1050** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(j/k)fluoranthene	**1090** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(e)pyrene	**1110** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(a)pyrene	**1470** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Perylene	**425** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**966** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dibenzo(a,h)anthracene	**254** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(g,h,i)perylene	**928** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Coronene	**252** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Tetramethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Trimethylethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dimethyldiethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Methyltriethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Tetraethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Total Organic Lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**67.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**225** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**125** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C-17	**331** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Pristane	**334** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C-18	**224** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Phytane	**229** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Carbazole	**54.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,6-Dimethylnaphthalene	**76.5** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,3,5-Trimethylnaphthene	**24.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
4-Methyldibenzothiophene	**53.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2/3-Methyldibenzothiophene	**37.8** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methyldibenzothiophene	**15.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
3-Methylphenanthrene	**167** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylphenanthrene	**164** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylanthracene	**142** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
4/9-Methylphenanthrene	**255** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methylphenanthrene	**136** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*67 %*		*50-120*
Surrogate: Perylene-d12	*77 %*		*50-120*
Surrogate: Phenanthrene-d10	*84 %*		*50-120*
Surrogate: Toluene-D8	*72 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**65700** (500)		TOC-LK		1	CCP	07/23/25 15:23	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	**B 58.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzene	**216** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzenes	**130** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzenes	**37.2** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzenes	**29.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C5-Benzenes	**30.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Methylcyclohexane	**J 5.95** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Toluene	**270** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Ethylbenzene	**11.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
m,p-Xylene	**162** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Styrene	**49.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
o-Xylene	**12.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Isopropylbenzene	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
n-Propylbenzene	**J 5.79** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1,3,5-Trimethylbenzene	**8.21** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1,2,3-Trimethylbenzene	**J 4.64** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1,2,4-Trimethylbenzene	**15.0** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
t-Butylbenzene	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
sec-Butylbenzene	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
p-Isopropyltoluene	**9.96** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
n-Butylbenzene	**10.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
trans-Decalin	**J 5.29** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
cis-Decalin	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Decalins	**23.3** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Decalins	**60.9** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Decalins	**61.9** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Decalins	**113** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)thiophene	**J 4.26** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzo(b)thiophenes	**10.1** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzo(b)thiophenes	**13.9** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzo(b)thiophenes	**10.2** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzo(b)thiophenes	**7.72** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**137** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylnaphthalene	**126** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methylnaphthalene	**53.7** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Naphthalenes	**109** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Naphthalenes	**236** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Naphthalenes	**396** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Naphthalenes	**391** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Biphenyl	**58.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Acenaphthylene	**366** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Acenaphthene	**44.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dibenzofuran	**45.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Fluorene	**119** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Fluorenes	**389** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Fluorenes	**719** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Fluorenes	**575** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dibenzothiophene	**42.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Dibenzothiophenes	**126** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Dibenzothiophenes	**215** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Dibenzothiophenes	**203** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Dibenzothiophenes	**122** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Phenanthrene	**1100** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Anthracene	**682** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**3080** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**2770** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**1490** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**745** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Retene	**352** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**174** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzonaphthothiophenes	**399** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzonaphthothiophenes	**282** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzonaphthothiophenes	**206** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzonaphthothiophenes	**52.6** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**3740** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Pyrene	**6360** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**6500** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**2770** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**738** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)fluorene	**626** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(c)fluorene	**306** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylpyrene	**970** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
4-Methylpyrene	**1050** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methylpyrene	**806** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benz(a)anthracene	**3210** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Chrysene/triphenylene	**3300** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**3060** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**1600** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**751** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**343** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)fluoranthene	**1810** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(j/k)fluoranthene	**2190** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(e)pyrene	**2740** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(a)pyrene	**3480** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Perylene	**811** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**1550** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dibenzo(a,h)anthracene	**494** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(g,h,i)perylene	**1720** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Coronene	**384** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Tetramethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Trimethylethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dimethyldiethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Methyltriethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Tetraethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Total Organic Lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**140** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**292** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**288** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C-17	**296** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Pristane	**644** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C-18	**144** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Phytane	**493** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Carbazole	**27.1** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,6-Dimethylnaphthalene	**57.0** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,3,5-Trimethylnaphthene	**32.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
4-Methyldibenzothiophene	**39.0** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2/3-Methyldibenzothiophene	**38.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methyldibenzothiophene	**9.83** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
3-Methylphenanthrene	**682** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylphenanthrene	**718** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylanthracene	**423** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
4/9-Methylphenanthrene	**927** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methylphenanthrene	**312** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*70 %*		*50-120*
Surrogate: Perylene-d12	*83 %*		*50-120*
Surrogate: Phenanthrene-d10	*79 %*		*50-120*
Surrogate: Toluene-D8	*76 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**48300** (500)		TOC-LK		1	CCP	07/23/25 15:39	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Classical Chemistry

Batch DG52240 - General Preparation

Blank

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Organic Carbon (1)	ND	500	mg/kg							
Total Organic Carbon (2)	ND	500	mg/kg							

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Classical Chemistry

Batch DG52240 - General Preparation

LCS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Organic Carbon (1)	9320	500	mg/kg	10010		93	80-120			
Total Organic Carbon (2)	9560	500	mg/kg	10010		96	80-120			

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Classical Chemistry

Batch DG52240 - General Preparation

LCS Dup

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Organic Carbon (1)	10000	500	mg/kg	10010		100	80-120	7	25	
Total Organic Carbon (2)	9180	500	mg/kg	10010		92	80-120	4	25	

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

Blank

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Benzene	14.5	4.00	ug/Kg wet							
C1-Benzene	5.79	4.00	ug/Kg wet							
C2-Benzenes	2.23	4.00	ug/Kg wet							J
C3-Benzenes	2.91	4.00	ug/Kg wet							J
C4-Benzenes	ND	4.00	ug/Kg wet							
C5-Benzenes	ND	4.00	ug/Kg wet							
Methylcyclohexane	ND	4.00	ug/Kg wet							
Toluene	7.92	4.00	ug/Kg wet							
Ethylbenzene	ND	4.00	ug/Kg wet							
m,p-Xylene	ND	4.00	ug/Kg wet							
Styrene	ND	4.00	ug/Kg wet							
o-Xylene	ND	4.00	ug/Kg wet							
Isopropylbenzene	ND	4.00	ug/Kg wet							
n-Propylbenzene	ND	4.00	ug/Kg wet							
1,3,5-Trimethylbenzene	ND	4.00	ug/Kg wet							
1,2,3-Trimethylbenzene	ND	4.00	ug/Kg wet							
1,2,4-Trimethylbenzene	ND	4.00	ug/Kg wet							
t-Butylbenzene	ND	4.00	ug/Kg wet							
sec-Butylbenzene	ND	4.00	ug/Kg wet							
p-Isopropyltoluene	ND	4.00	ug/Kg wet							
n-Butylbenzene	ND	4.00	ug/Kg wet							
trans-Decalin	ND	4.00	ug/Kg wet							
cis-Decalin	ND	4.00	ug/Kg wet							
C1-Decalins	ND	4.00	ug/Kg wet							
C2-Decalins	ND	4.00	ug/Kg wet							
C3-Decalins	ND	4.00	ug/Kg wet							
C4-Decalins	ND	4.00	ug/Kg wet							
Benzo(b)thiophene	ND	4.00	ug/Kg wet							
C1-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
C2-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
C3-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
C4-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
Naphthalene	ND	4.00	ug/Kg wet							
2-Methylnaphthalene	ND	4.00	ug/Kg wet							
1-Methylnaphthalene	ND	4.00	ug/Kg wet							
C1-Naphthalenes	ND	4.00	ug/Kg wet							
C2-Naphthalenes	ND	4.00	ug/Kg wet							
C3-Naphthalenes	ND	4.00	ug/Kg wet							
C4-Naphthalenes	ND	4.00	ug/Kg wet							
Biphenyl	2.40	4.00	ug/Kg wet							J
Acenaphthylene	ND	4.00	ug/Kg wet							
Acenaphthene	ND	4.00	ug/Kg wet							
Dibenzofuran	ND	4.00	ug/Kg wet							
Fluorene	ND	4.00	ug/Kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570				
C1-Fluorenes	ND	4.00	ug/Kg wet	
C2-Fluorenes	ND	4.00	ug/Kg wet	
C3-Fluorenes	ND	4.00	ug/Kg wet	
Dibenzothiophene	ND	4.00	ug/Kg wet	
C1-Dibenzothiophenes	ND	4.00	ug/Kg wet	
C2-Dibenzothiophenes	ND	4.00	ug/Kg wet	
C3-Dibenzothiophenes	ND	4.00	ug/Kg wet	
C4-Dibenzothiophenes	ND	4.00	ug/Kg wet	
Phenanthrene	ND	4.00	ug/Kg wet	
Anthracene	ND	4.00	ug/Kg wet	
C1-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
C2-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
C3-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
C4-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
Retene	ND	4.00	ug/Kg wet	
Benzo(b)naphtho(2,1-d)thiophene	ND	4.00	ug/Kg wet	
C1-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
C2-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
C3-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
C4-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
Fluoranthene	ND	4.00	ug/Kg wet	
Pyrene	ND	4.00	ug/Kg wet	
C1-Fluoranthenes/Pyrenes	ND	4.00	ug/Kg wet	
C2-Fluoranthenes/Pyrenes	ND	4.00	ug/Kg wet	
C3-Fluoranthenes/Pyrenes	ND	4.00	ug/Kg wet	
Benzo(b)fluorene	ND	4.00	ug/Kg wet	
Benzo(c)fluorene	ND	4.00	ug/Kg wet	
2-Methylpyrene	ND	4.00	ug/Kg wet	
4-Methylpyrene	ND	4.00	ug/Kg wet	
1-Methylpyrene	ND	4.00	ug/Kg wet	
Benz(a)anthracene	ND	4.00	ug/Kg wet	
Chrysene/triphenylene	ND	4.00	ug/Kg wet	
C1-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
C2-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
C3-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
C4-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
Benzo(b)fluoranthene	ND	4.00	ug/Kg wet	
Benzo(j/k)fluoranthene	ND	4.00	ug/Kg wet	
Benzo(e)pyrene	ND	4.00	ug/Kg wet	
Benzo(a)pyrene	ND	4.00	ug/Kg wet	
Perylene	ND	4.00	ug/Kg wet	
Indeno(1,2,3-cd)pyrene	ND	4.00	ug/Kg wet	
Dibenzo(a,h)anthracene	ND	4.00	ug/Kg wet	
Benzo(g,h,i)perylene	ND	4.00	ug/Kg wet	
Coronene	3.16	4.00	ug/Kg wet	J
Tetramethyl lead	ND	4.00	ug/Kg wet	
Trimethylethyl lead	ND	4.00	ug/Kg wet	
Dimethyldiethyl lead	ND	4.00	ug/Kg wet	

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570						
Methyltriethyl lead	ND	4.00	ug/Kg wet			
Tetraethyl lead	ND	4.00	ug/Kg wet			
Total Organic Lead	ND	4.00	ug/Kg wet			
2,6,10-trimethyldodecane (1380)	ND	4.00	ug/Kg wet			
2,6,10-trimethyltridecane (1470)	ND	4.00	ug/Kg wet			
2,6,10-trimethylpentadecane (1650)	ND	4.00	ug/Kg wet			
C-17	4.73	4.00	ug/Kg wet			
Pristane	ND	4.00	ug/Kg wet			
C-18	5.92	4.00	ug/Kg wet			
Phytane	ND	4.00	ug/Kg wet			
Carbazole	ND	4.00	ug/Kg wet			
2,6-Dimethylnaphthalene	ND	4.00	ug/Kg wet			
2,3,5-Trimethylnaphthene	ND	4.00	ug/Kg wet			
4-Methyldibenzothiophene	ND	4.00	ug/Kg wet			
2/3-Methyldibenzothiophene	ND	4.00	ug/Kg wet			
1-Methyldibenzothiophene	ND	4.00	ug/Kg wet			
3-Methylphenanthrene	ND	4.00	ug/Kg wet			
2-Methylphenanthrene	ND	4.00	ug/Kg wet			
2-Methylanthracene	ND	4.00	ug/Kg wet			
4/9-Methylphenanthrene	ND	4.00	ug/Kg wet			
1-Methylphenanthrene	ND	4.00	ug/Kg wet			
Surrogate: Naphthalene-d8	*311*		ug/Kg wet	*400.0*	*78*	*50-120*
Surrogate: Perylene-d12	*269*		ug/Kg wet	*400.0*	*67*	*50-120*
Surrogate: Phenanthrene-d10	*322*		ug/Kg wet	*400.0*	*81*	*50-120*
Surrogate: Toluene-D8	*344*		ug/Kg wet	*400.0*	*86*	*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

LCS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Benzene	360	4.00	ug/Kg wet	400.0		90	60-130			
Methylcyclohexane	259	4.00	ug/Kg wet	400.0		65	60-130			
Toluene	315	4.00	ug/Kg wet	400.0		79	60-130			
Ethylbenzene	317	4.00	ug/Kg wet	400.0		79	60-130			
m,p-Xylene	319	4.00	ug/Kg wet	400.0		80	60-130			
Styrene	314	4.00	ug/Kg wet	400.0		78	60-130			
o-Xylene	324	4.00	ug/Kg wet	400.0		81	60-130			
Isopropylbenzene	323	4.00	ug/Kg wet	400.0		81	60-130			
n-Propylbenzene	296	4.00	ug/Kg wet	400.0		74	60-130			
1,3,5-Trimethylbenzene	299	4.00	ug/Kg wet	400.0		75	60-130			
1,2,3-Trimethylbenzene	311	4.00	ug/Kg wet	400.0		78	60-130			
1,2,4-Trimethylbenzene	294	4.00	ug/Kg wet	400.0		73	60-130			
t-Butylbenzene	295	4.00	ug/Kg wet	400.0		74	60-130			
sec-Butylbenzene	294	4.00	ug/Kg wet	400.0		73	60-130			
p-Isopropyltoluene	315	4.00	ug/Kg wet	400.0		79	60-130			
n-Butylbenzene	289	4.00	ug/Kg wet	400.0		72	60-130			
trans-Decalin	308	4.00	ug/Kg wet	400.0		77	60-130			
cis-Decalin	327	4.00	ug/Kg wet	400.0		82	60-130			
Benzo(b)thiophene	293	4.00	ug/Kg wet	400.0		73	60-130			
Naphthalene	296	4.00	ug/Kg wet	400.0		74	60-130			
2-Methylnaphthalene	305	4.00	ug/Kg wet	400.0		76	60-130			
1-Methylnaphthalene	305	4.00	ug/Kg wet	400.0		76	60-130			
Biphenyl	307	4.00	ug/Kg wet	400.0		77	60-130			
Acenaphthylene	342	4.00	ug/Kg wet	400.0		86	60-130			
Acenaphthene	316	4.00	ug/Kg wet	400.0		79	60-130			
Dibenzofuran	302	4.00	ug/Kg wet	400.0		76	60-130			
Fluorene	316	4.00	ug/Kg wet	400.0		79	60-130			
Dibenzothiophene	311	4.00	ug/Kg wet	400.0		78	60-130			
Phenanthrene	324	4.00	ug/Kg wet	400.0		81	60-130			
Anthracene	325	4.00	ug/Kg wet	400.0		81	60-130			
Retene	356	4.00	ug/Kg wet	400.0		89	60-130			
Benzo(b)naphtho(2,1-d)thiophene	327	4.00	ug/Kg wet	400.0		82	60-130			
Fluoranthene	356	4.00	ug/Kg wet	400.0		89	60-130			
Pyrene	353	4.00	ug/Kg wet	400.0		88	60-130			
Benz(a)anthracene	346	4.00	ug/Kg wet	400.0		87	60-130			
Chrysene/triphenylene	336	4.00	ug/Kg wet	400.0		84	60-130			
Benzo(b)fluoranthene	322	4.00	ug/Kg wet	400.0		81	60-130			
Benzo(j/k)fluoranthene	311	4.00	ug/Kg wet	400.0		78	60-130			
Benzo(e)pyrene	310	4.00	ug/Kg wet	400.0		77	60-130			
Benzo(a)pyrene	308	4.00	ug/Kg wet	400.0		77	60-130			
Perylene	309	4.00	ug/Kg wet	400.0		77	60-130			
Indeno(1,2,3-cd)pyrene	325	4.00	ug/Kg wet	400.0		81	60-130			
Dibenzo(a,h)anthracene	303	4.00	ug/Kg wet	400.0		76	60-130			
Benzo(g,h,i)perylene	291	4.00	ug/Kg wet	400.0		73	60-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570						
Coronene	275	4.00	ug/Kg wet	400.0	69	60-130
Surrogate: Naphthalene-d8	*294*		ug/Kg wet	*400.0*	*74*	*50-120*
Surrogate: Perylene-d12	*307*		ug/Kg wet	*400.0*	*77*	*50-120*
Surrogate: Phenanthrene-d10	*336*		ug/Kg wet	*400.0*	*84*	*50-120*
Surrogate: Toluene-D8	*334*		ug/Kg wet	*400.0*	*84*	*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

Duplicate **Source: F250041-04** **D+**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Benzene	39.1	6.83	ug/Kg dry		58.8			40	50	
C1-Benzene	118	6.83	ug/Kg dry		216			59	50	
C2-Benzenes	76.8	6.83	ug/Kg dry		130			52	50	
C3-Benzenes	27.5	6.83	ug/Kg dry		37.2			30	50	
C4-Benzenes	23.9	6.83	ug/Kg dry		29.5			21	50	
C5-Benzenes	21.5	6.83	ug/Kg dry		30.8			36	50	
Methylcyclohexane	ND	6.83	ug/Kg dry		5.95				50	
Toluene	148	6.83	ug/Kg dry		270			58	50	
Ethylbenzene	6.85	6.83	ug/Kg dry		11.4			50	50	
m,p-Xylene	101	6.83	ug/Kg dry		162			47	50	
Styrene	26.5	6.83	ug/Kg dry		49.5			61	50	
o-Xylene	7.82	6.83	ug/Kg dry		12.4			46	50	
Isopropylbenzene	ND	6.83	ug/Kg dry		ND				50	
n-Propylbenzene	ND	6.83	ug/Kg dry		5.79				50	
1,3,5-Trimethylbenzene	4.37	6.83	ug/Kg dry		8.21			61	50	J
1,2,3-Trimethylbenzene	4.20	6.83	ug/Kg dry		4.64			10	50	J
1,2,4-Trimethylbenzene	8.98	6.83	ug/Kg dry		15.0			51	50	
t-Butylbenzene	ND	6.83	ug/Kg dry		ND				50	
sec-Butylbenzene	ND	6.83	ug/Kg dry		ND				50	
p-Isopropyltoluene	7.01	6.83	ug/Kg dry		9.96			35	50	
n-Butylbenzene	6.21	6.83	ug/Kg dry		10.8			54	50	J
trans-Decalin	4.15	6.83	ug/Kg dry		5.29			24	50	J
cis-Decalin	ND	6.83	ug/Kg dry		ND				50	
C1-Decalins	20.5	6.83	ug/Kg dry		23.3			12	50	
C2-Decalins	43.9	6.83	ug/Kg dry		60.9			33	50	
C3-Decalins	46.5	6.83	ug/Kg dry		61.9			28	50	
C4-Decalins	89.4	6.83	ug/Kg dry		113			23	50	
Benzo(b)thiophene	ND	6.83	ug/Kg dry		4.26				50	
C1-Benzo(b)thiophenes	6.95	6.83	ug/Kg dry		10.1			37	50	
C2-Benzo(b)thiophenes	10.8	6.83	ug/Kg dry		13.9			25	50	
C3-Benzo(b)thiophenes	7.24	6.83	ug/Kg dry		10.2			34	50	
C4-Benzo(b)thiophenes	ND	6.83	ug/Kg dry		7.72				50	
Naphthalene	79.1	6.83	ug/Kg dry		137			54	50	
2-Methylnaphthalene	76.0	6.83	ug/Kg dry		126			49	50	
1-Methylnaphthalene	28.9	6.83	ug/Kg dry		53.7			60	50	
C1-Naphthalenes	63.8	6.83	ug/Kg dry		109			52	50	
C2-Naphthalenes	148	6.83	ug/Kg dry		236			46	50	
C3-Naphthalenes	264	6.83	ug/Kg dry		396			40	50	
C4-Naphthalenes	251	6.83	ug/Kg dry		391			44	50	
Biphenyl	33.4	6.83	ug/Kg dry		58.4			55	50	
Acenaphthylene	261	6.83	ug/Kg dry		366			33	50	
Acenaphthene	24.4	6.83	ug/Kg dry		44.4			58	50	
Dibenzofuran	37.2	6.83	ug/Kg dry		45.4			20	50	
Fluorene	72.8	6.83	ug/Kg dry		119			48	50	

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

C1-Fluorenes	252	6.83	ug/Kg dry	389	43	50
C2-Fluorenes	424	6.83	ug/Kg dry	719	52	50
C3-Fluorenes	305	6.83	ug/Kg dry	575	61	50
Dibenzothiophene	29.4	6.83	ug/Kg dry	42.8	37	50
C1-Dibenzothiophenes	80.1	6.83	ug/Kg dry	126	45	50
C2-Dibenzothiophenes	124	6.83	ug/Kg dry	215	54	50
C3-Dibenzothiophenes	116	6.83	ug/Kg dry	203	54	50
C4-Dibenzothiophenes	67.6	6.83	ug/Kg dry	122	57	50
Phenanthrene	563	6.83	ug/Kg dry	1100	65	50
Anthracene	413	6.83	ug/Kg dry	682	49	50
C1-Phenanthrenes/Anthracenes	1530	6.83	ug/Kg dry	3080	67	50
C2-Phenanthrenes/Anthracenes	1490	6.83	ug/Kg dry	2770	60	50
C3-Phenanthrenes/Anthracenes	840	6.83	ug/Kg dry	1490	56	50
C4-Phenanthrenes/Anthracenes	398	6.83	ug/Kg dry	745	61	50
Retene	225	6.83	ug/Kg dry	352	44	50
Benzo(b)naphtho(2,1-d)thiophene	95.3	6.83	ug/Kg dry	174	58	50
C1-Benzonaphthothiophenes	212	6.83	ug/Kg dry	399	61	50
C2-Benzonaphthothiophenes	147	6.83	ug/Kg dry	282	63	50
C3-Benzonaphthothiophenes	110	6.83	ug/Kg dry	206	60	50
C4-Benzonaphthothiophenes	28.2	6.83	ug/Kg dry	52.6	61	50
Fluoranthene	1840	6.83	ug/Kg dry	3740	68	50
Pyrene	2870	6.83	ug/Kg dry	6360	76	50
C1-Fluoranthenes/Pyrenes	3010	6.83	ug/Kg dry	6500	73	50
C2-Fluoranthenes/Pyrenes	1460	6.83	ug/Kg dry	2770	62	50
C3-Fluoranthenes/Pyrenes	412	6.83	ug/Kg dry	738	57	50
Benzo(b)fluorene	292	6.83	ug/Kg dry	626	73	50
Benzo(c)fluorene	123	6.83	ug/Kg dry	306	85	50
2-Methylpyrene	451	6.83	ug/Kg dry	970	73	50
4-Methylpyrene	494	6.83	ug/Kg dry	1050	72	50
1-Methylpyrene	359	6.83	ug/Kg dry	806	77	50
Benz(a)anthracene	1620	6.83	ug/Kg dry	3210	66	50
Chrysene/triphenylene	1690	6.83	ug/Kg dry	3300	65	50
C1-Benzo(a)anthracenes/Chrysenes	1590	6.83	ug/Kg dry	3060	64	50
C2-Benzo(a)anthracenes/Chrysenes	912	6.83	ug/Kg dry	1600	55	50
C3-Benzo(a)anthracenes/Chrysenes	452	6.83	ug/Kg dry	751	50	50
C4-Benzo(a)anthracenes/Chrysenes	179	6.83	ug/Kg dry	343	63	50
Benzo(b)fluoranthene	938	6.83	ug/Kg dry	1810	63	50
Benzo(j/k)fluoranthene	1010	6.83	ug/Kg dry	2190	74	50
Benzo(e)pyrene	1240	6.83	ug/Kg dry	2740	75	50
Benzo(a)pyrene	1560	6.83	ug/Kg dry	3480	76	50
Perylene	371	6.83	ug/Kg dry	811	74	50
Indeno(1,2,3-cd)pyrene	781	6.83	ug/Kg dry	1550	66	50
Dibenzo(a,h)anthracene	274	6.83	ug/Kg dry	494	57	50
Benzo(g,h,i)perylene	813	6.83	ug/Kg dry	1720	72	50
Coronene	154	6.83	ug/Kg dry	384	85	50
Tetramethyl lead	ND	6.83	ug/Kg dry	ND		50
Trimethylethyl lead	ND	6.83	ug/Kg dry	ND		50
Dimethyldiethyl lead	ND	6.83	ug/Kg dry	ND		50

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570									
Methyltriethyl lead	ND	6.83	ug/Kg dry		ND			50	
Tetraethyl lead	ND	6.83	ug/Kg dry		ND			50	
Total Organic Lead	ND	6.83	ug/Kg dry		ND			50	
2,6,10-trimethyldodecane (1380)	104	6.83	ug/Kg dry		140		29	50	
2,6,10-trimethyltridecane (1470)	254	6.83	ug/Kg dry		292		14	50	
2,6,10-trimethylpentadecane (1650)	214	6.83	ug/Kg dry		288		29	50	
C-17	217	6.83	ug/Kg dry		296		31	50	
Pristane	445	6.83	ug/Kg dry		644		37	50	
C-18	99.7	6.83	ug/Kg dry		144		36	50	
Phytane	306	6.83	ug/Kg dry		493		47	50	
Carbazole	20.5	6.83	ug/Kg dry		27.1		28	50	
2,6-Dimethylnaphthalene	32.8	6.83	ug/Kg dry		57.0		54	50	
2,3,5-Trimethylnaphthene	21.0	6.83	ug/Kg dry		32.5		43	50	
4-Methyldibenzothiophene	23.3	6.83	ug/Kg dry		39.0		50	50	
2/3-Methyldibenzothiophene	24.3	6.83	ug/Kg dry		38.5		45	50	
1-Methyldibenzothiophene	5.36	6.83	ug/Kg dry		9.83		59	50	J
3-Methylphenanthrene	334	6.83	ug/Kg dry		682		68	50	
2-Methylphenanthrene	363	6.83	ug/Kg dry		718		66	50	
2-Methylanthracene	207	6.83	ug/Kg dry		423		69	50	
4/9-Methylphenanthrene	478	6.83	ug/Kg dry		927		64	50	
1-Methylphenanthrene	137	6.83	ug/Kg dry		312		78	50	
Surrogate: Naphthalene-d8	*487*		ug/Kg dry	*682.6*		*71*	*50-120*		
Surrogate: Perylene-d12	*508*		ug/Kg dry	*682.6*		*74*	*50-120*		
Surrogate: Phenanthrene-d10	*579*		ug/Kg dry	*682.6*		*85*	*50-120*		
Surrogate: Toluene-D8	*409*		ug/Kg dry	*682.6*		*60*	*50-120*		

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP ESS Laboratory Work Order: F250041

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Reported between MDL and MRL
D+	Relative percent difference for duplicate is outside of criteria (D+).
B	Present in Method Blank (B).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) F250041

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: Amesbury Former MGP

Project Location: Amesbury, MA

Project Number: 1804576

Project Manager: Ryan Hoffman
781-721-4091 rhoffman@geiconsultants.com

Send Report to: Ryan Hoffman and Jeremy Smalley

labdata@geiconsultants.com

Preservative

None None

Analysis

Sample Handling

Samples Field Filtered
YES NO (NA)

Sampled Shipped With Ice
(YES) NO

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Parent and Alkylated MAHs * PAHs 8270*	TOCs by Lloyd-Kahn	Sample Specific Remarks
1	1804576-894-S1	7/15/25	10:55	SED	1	NMT	X	X	
2	1804576-894-S2		10:56		1		X	X	
3	1804576-895-S1		10:25		1		X	X	
4	1804576-895-S2		10:26		1		X	X	

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1. Nicholas Lavorato	7/15/2025	12:30	1. GEI SAMPLE FRIDGE
2. Fridge	7/15/25	1450	2.
3.	7/15/25	1450	3.
4.	7/15/25	18:18	4. 7/15/25 1818
5.			5. 3.0 on ice

Turnaround Time (Business days):

5-Day X 4-Day ____ 3-Day ____
2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

GIRI

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants

Shipped/Delivered Via: ESS Courier

ESS Project ID: F250041
Date Received: 7/15/2025
Project Due Date: 7/22/2025
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp (°C): 3 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By/Acid Lot#:
    b. If dissolved metals are requested, are they: Field Filtered / To Be Lab Filtered
    c. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	2017	Yes	N/A	Yes	4 oz. Jar	NP	
2	2018	Yes	N/A	Yes	4 oz. Jar	NP	
3	2019	Yes	N/A	Yes	4 oz. Jar	NP	
4	2020	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review

Were all containers scanned into storage/lab? Initials Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 7/16/25 13:26
Reviewed By: Date & Time: 7/16/25 1339

Appendix C Test Pit Logs

TEST PIT LOG

894

Project	Amesbury Former MGP			**PG.**	1 **OF** 1
City/Town	Amesbury, MA			**Location**	41 Oakland Street
Client	National Grid				
Contractor	NA			**Ground El.**	NM
Equipment/Reach	Shovel			**Datum**	NA
Operator	National Grid	**GEI Rep**	N. Troccolo	**GEI Proj. No.**	1804576
Weather	Partly Cloudy ~88		J. Higgins	**Date**	7/15/2025

Depth (ft)	Sample No. and Type	Sample Depth (ft)	Soil Description
1	S1 PID = 1.2 ppm	0-1.0'	SANDY SILT (ML) (0-1.0'): ~70% nonplastic fines, ~30% fine to coarse sand, brown, wet. Contained decaying vegetation.
	S2 PID =0.5 ppm	1-1.5'	SANDY SILT (ML) (1.5-2.5'): ~85% nonplastic fines, ~15% fine to medium sand, brown, wet. Contained decaying vegetation.
2			Bottom of test pit at 1.5'.
3			
4			
5			
6			
7			
8			

Notes:
Environmental samples collected from S1 (0-1.0'), and S2 (1.0-1.5').
PID = Photoionization detector
PPM = parts per million

Pit Dimensions (ft)

length	~1
width	~1
depth	1.5

TEST PIT LOG

895

Project	Amesbury Former MGP			**PG.**	1 **OF** 1
City/Town	Amesbury, MA			**Location**	41 Oakland Street
Client	National Grid				
Contractor	NA			**Ground El.**	NM
Equipment/Reach	Shovel			**Datum**	NA
Operator	National Grid	**GEI Rep**	N. Troccolo	**GEI Proj. No.**	1804576
Weather	Partly Cloudy ~88		J. Higgins	**Date**	7/15/2025

Depth (ft)	Sample No. and Type	Sample Depth (ft)	Soil Description
1	S1 PID = 1.0 ppm	0-1.0'	SANDY SILT (ML) (0-1.0'): ~70% nonplastic fines, ~30% fine to coarse sand, brown, wet. Contained decaying vegetation.
	S2 PID =0.3 ppm	1-1.5'	SANDY SILT (ML) (1.5-2.5'): ~85% nonplastic fines, ~15% fine to medium sand, brown, wet. Contained decaying vegetation.
2			Bottom of test pit at 1.5'.
3			
4			
5			
6			
7			
8			

Notes:
Environmental samples collected from S1 (0-1.0'), and S2 (1.0-1.5').
PID = Photoionization detector
PPM = parts per million

Pit Dimensions (ft)

length	~1
width	~1
depth	1.5

Appendix D Laboratory Data Report

CERTIFICATE OF ANALYSIS

Ryan Hoffman
GEI
400 Unicorn Park Drive
Woburn, MA 01801

RE: Amesbury Former MGP (1804576)
ESS Laboratory Work Order Number: F250041

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By Normand Laurianno Jr. at 7:59 am, Aug 21, 2025

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses
ESS - Cranston, RI TOC

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

SAMPLE RECEIPT

The following samples were received on July 15, 2025 for the analyses specified on the enclosed Chain of Custody Record.

Revision 1 August 21, 2025: This report has been revised to include additional compounds.

Lab Number	Sample Name	Matrix	Analysis
F250041-01	1804576-894-S1	Sediment	8270 Mod, TOC-LK
F250041-02	1804576-894-S2	Sediment	8270 Mod, TOC-LK
F250041-03	1804576-895-S1	Sediment	8270 Mod, TOC-LK
F250041-04	1804576-895-S2	Sediment	8270 Mod, TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

PROJECT NARRATIVE

Alkylated PAHs

F250041-02	**Present in Method Blank (B).**
	Benzene
F250041-03	**Present in Method Blank (B).**
	Benzene
F250041-04	**Present in Method Blank (B).**
	Benzene
FG51701-DUP1	**Relative percent difference for duplicate is outside of criteria (D+).**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015B Mod - TPH by GCFID
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D Mod - Alkylated PAHs and Benzenes
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3511 - Microsolvent Extraction Aqueous
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3570 - Microsolvent Extraction Soild
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	**158** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzene	**297** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzenes	**386** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzenes	**69.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzenes	**55.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C5-Benzenes	**40.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Methylcyclohexane	**J 8.37** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Toluene	**380** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Ethylbenzene	**19.3** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
m,p-Xylene	**539** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Styrene	**162** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
o-Xylene	**20.7** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Isopropylbenzene	**J 8.23** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
n-Propylbenzene	**15.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1,3,5-Trimethylbenzene	**J 10.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1,2,3-Trimethylbenzene	**J 11.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1,2,4-Trimethylbenzene	**20.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
t-Butylbenzene	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
sec-Butylbenzene	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
p-Isopropyltoluene	**20.2** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
n-Butylbenzene	**31.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
trans-Decalin	**J 9.86** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
cis-Decalin	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Decalins	**21.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Decalins	**37.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Decalins	**32.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Decalins	**65.4** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)thiophene	**J 9.73** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzo(b)thiophenes	**24.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzo(b)thiophenes	**20.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzo(b)thiophenes	**J 10.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzo(b)thiophenes	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**143** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylnaphthalene	**83.5** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methylnaphthalene	**47.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Naphthalenes	**79.1** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Naphthalenes	**174** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Naphthalenes	**118** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Naphthalenes	**125** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Biphenyl	**41.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Acenaphthylene	**575** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Acenaphthene	**120** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dibenzofuran	**38.3** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Fluorene	**110** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Fluorenes	**135** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Fluorenes	**258** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Fluorenes	**275** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dibenzothiophene	**78.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Dibenzothiophenes	**103** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Dibenzothiophenes	**162** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Dibenzothiophenes	**134** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Dibenzothiophenes	**77.8** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Phenanthrene	**784** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Anthracene	**487** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**1010** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**1090** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**612** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**282** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Retene	**203** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**198** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzonaphthothiophenes	**256** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzonaphthothiophenes	**213** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzonaphthothiophenes	**152** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzonaphthothiophenes	**66.5** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**2490** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Pyrene	**3550** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**2680** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**1340** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**288** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)fluorene	**206** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(c)fluorene	**90.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylpyrene	**416** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
4-Methylpyrene	**517** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methylpyrene	**350** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benz(a)anthracene	**1620** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Chrysene/triphenylene	**2010** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**1490** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**794** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**363** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**178** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(b)fluoranthene	**1460** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(j/k)fluoranthene	**1480** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(e)pyrene	**1790** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(a)pyrene	**2070** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Perylene	**430** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**1220** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dibenzo(a,h)anthracene	**318** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Benzo(g,h,i)perylene	**1330** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Coronene	**357** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Tetramethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Trimethylethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Dimethyldiethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Methyltriethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Tetraethyl lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Total Organic Lead	ND (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**42.4** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: 33
Initial Volume: 5.28
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**181** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**104** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C-17	**447** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Pristane	**238** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
C-18	**193** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Phytane	**229** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
Carbazole	**70.5** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,6-Dimethylnaphthalene	**80.6** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2,3,5-Trimethylnaphthene	**J 7.90** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
4-Methyldibenzothiophene	**40.0** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2/3-Methyldibenzothiophene	**32.3** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methyldibenzothiophene	**12.9** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
3-Methylphenanthrene	**232** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylphenanthrene	**185** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
2-Methylanthracene	**131** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
4/9-Methylphenanthrene	**322** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701
1-Methylphenanthrene	**119** (11.5)	5.75	8270 Mod		1	IBM	07/17/25 17:22	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*73 %*		*50-120*
Surrogate: Perylene-d12	*76 %*		*50-120*
Surrogate: Phenanthrene-d10	*80 %*		*50-120*
Surrogate: Toluene-D8	*60 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S1
Date Sampled: 07/15/25 10:55
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-01
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**71200** (500)		TOC-LK		1	CCP	07/23/25 14:50	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	B **29.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzene	**67.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzenes	**48.8** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzenes	**8.63** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzenes	**21.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C5-Benzenes	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Methylcyclohexane	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Toluene	**87.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Ethylbenzene	J **2.95** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
m,p-Xylene	**62.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Styrene	**17.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
o-Xylene	J **3.83** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Isopropylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
n-Propylbenzene	J **2.81** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1,3,5-Trimethylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1,2,3-Trimethylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1,2,4-Trimethylbenzene	J **3.01** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
t-Butylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
sec-Butylbenzene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
p-Isopropyltoluene	**11.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
n-Butylbenzene	**5.32** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
trans-Decalin	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
cis-Decalin	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Decalins	J **4.04** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Decalins	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Decalins	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Decalins	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)thiophene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzo(b)thiophenes	J **3.51** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzo(b)thiophenes	J **4.85** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzo(b)thiophenes	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzo(b)thiophenes	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**18.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylnaphthalene	**15.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methylnaphthalene	**9.86** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Naphthalenes	**15.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Naphthalenes	**22.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Naphthalenes	**17.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Naphthalenes	**18.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Biphenyl	**9.27** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Acenaphthylene	**45.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Acenaphthene	**30.8** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dibenzofuran	**5.85** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Fluorene	**16.8** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Fluorenes	**19.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Fluorenes	**35.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Fluorenes	**34.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dibenzothiophene	**9.28** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Dibenzothiophenes	**17.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Dibenzothiophenes	**26.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Dibenzothiophenes	**20.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Dibenzothiophenes	**22.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Phenanthrene	**104** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Anthracene	**52.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**146** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**161** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**121** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**96.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Retene	**207** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**28.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzonaphthothiophenes	**53.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzonaphthothiophenes	**39.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzonaphthothiophenes	**26.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzonaphthothiophenes	**9.42** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**303** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Pyrene	**455** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**435** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**231** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**54.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)fluorene	**52.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(c)fluorene	**20.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylpyrene	**63.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
4-Methylpyrene	**61.6** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methylpyrene	**45.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benz(a)anthracene	**257** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Chrysene/triphenylene	**276** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**266** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**180** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**77.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**44.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(b)fluoranthene	**169** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(j/k)fluoranthene	**221** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(e)pyrene	**197** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(a)pyrene	**273** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Perylene	**206** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**148** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dibenzo(a,h)anthracene	**43.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Benzo(g,h,i)perylene	**138** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Coronene	**36.3** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Tetramethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Trimethylethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Dimethyldiethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Methyltriethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Tetraethyl lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Total Organic Lead	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**7.20** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: 64
Initial Volume: 6.32
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**41.1** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**8.69** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C-17	**79.4** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Pristane	**22.0** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
C-18	**169** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Phytane	**14.2** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
Carbazole	**J 4.28** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,6-Dimethylnaphthalene	**8.86** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2,3,5-Trimethylnaphthene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
4-Methyldibenzothiophene	**5.94** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2/3-Methyldibenzothiophene	**5.37** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methyldibenzothiophene	ND (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
3-Methylphenanthrene	**31.9** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylphenanthrene	**27.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
2-Methylanthracene	**22.5** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
4/9-Methylphenanthrene	**39.6** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701
1-Methylphenanthrene	**17.7** (4.97)	2.48	8270 Mod		1	IBM	07/17/25 20:04	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*72 %*		*50-120*
Surrogate: Perylene-d12	*75 %*		*50-120*
Surrogate: Phenanthrene-d10	*76 %*		*50-120*
Surrogate: Toluene-D8	*71 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-894-S2
Date Sampled: 07/15/25 10:56
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-02
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**26500** (500)		TOC-LK		1	CCP	07/23/25 15:06	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	**B 82.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzene	**217** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzenes	**286** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzenes	**60.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzenes	**62.5** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C5-Benzenes	**49.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Methylcyclohexane	**34.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Toluene	**265** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Ethylbenzene	**12.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
m,p-Xylene	**408** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Styrene	**30.2** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
o-Xylene	**14.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Isopropylbenzene	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
n-Propylbenzene	**9.20** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1,3,5-Trimethylbenzene	**13.8** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1,2,3-Trimethylbenzene	**10.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1,2,4-Trimethylbenzene	**17.7** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
t-Butylbenzene	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
sec-Butylbenzene	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
p-Isopropyltoluene	**22.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
n-Butylbenzene	**19.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
trans-Decalin	**15.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
cis-Decalin	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Decalins	**33.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Decalins	**59.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Decalins	**58.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Decalins	**124** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)thiophene	**J 6.42** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzo(b)thiophenes	**13.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzo(b)thiophenes	**25.5** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzo(b)thiophenes	**16.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzo(b)thiophenes	**13.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**96.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylnaphthalene	**82.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methylnaphthalene	**71.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Naphthalenes	**91.2** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Naphthalenes	**301** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Naphthalenes	**367** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Naphthalenes	**297** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Biphenyl	**36.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Acenaphthylene	**389** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Acenaphthene	**78.2** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dibenzofuran	**39.3** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Fluorene	**105** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Fluorenes	**196** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Fluorenes	**372** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Fluorenes	**371** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dibenzothiophene	**74.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Dibenzothiophenes	**129** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Dibenzothiophenes	**230** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Dibenzothiophenes	**186** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Dibenzothiophenes	**90.4** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Phenanthrene	**679** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Anthracene	**399** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**869** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**1040** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**697** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**302** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Retene	**117** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**180** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzonaphthothiophenes	**278** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzonaphthothiophenes	**238** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzonaphthothiophenes	**174** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzonaphthothiophenes	**47.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**1930** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Pyrene	**2580** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**1990** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**1090** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**250** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)fluorene	**181** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(c)fluorene	**68.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylpyrene	**310** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
4-Methylpyrene	**349** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methylpyrene	**236** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benz(a)anthracene	**1210** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Chrysene/triphenylene	**1530** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**1220** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**772** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**371** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**194** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(b)fluoranthene	**1050** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(j/k)fluoranthene	**1090** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(e)pyrene	**1110** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(a)pyrene	**1470** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Perylene	**425** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**966** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dibenzo(a,h)anthracene	**254** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Benzo(g,h,i)perylene	**928** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Coronene	**252** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Tetramethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Trimethylethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Dimethyldiethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Methyltriethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Tetraethyl lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Total Organic Lead	ND (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**67.9** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: 48
Initial Volume: 5.66
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**225** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**125** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C-17	**331** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Pristane	**334** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
C-18	**224** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Phytane	**229** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
Carbazole	**54.0** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,6-Dimethylnaphthalene	**76.5** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2,3,5-Trimethylnaphthene	**24.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
4-Methyldibenzothiophene	**53.6** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2/3-Methyldibenzothiophene	**37.8** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methyldibenzothiophene	**15.1** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
3-Methylphenanthrene	**167** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylphenanthrene	**164** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
2-Methylanthracene	**142** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
4/9-Methylphenanthrene	**255** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701
1-Methylphenanthrene	**136** (7.31)	3.65	8270 Mod		1	IBM	07/17/25 22:46	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*67 %*		*50-120*
Surrogate: Perylene-d12	*77 %*		*50-120*
Surrogate: Phenanthrene-d10	*84 %*		*50-120*
Surrogate: Toluene-D8	*72 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S1
Date Sampled: 07/15/25 10:25
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-03
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**65700** (500)		TOC-LK		1	CCP	07/23/25 15:23	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Benzene	**B 58.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzene	**216** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzenes	**130** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzenes	**37.2** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzenes	**29.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C5-Benzenes	**30.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Methylcyclohexane	**J 5.95** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Toluene	**270** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Ethylbenzene	**11.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
m,p-Xylene	**162** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Styrene	**49.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
o-Xylene	**12.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Isopropylbenzene	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
n-Propylbenzene	**J 5.79** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1,3,5-Trimethylbenzene	**8.21** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1,2,3-Trimethylbenzene	**J 4.64** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1,2,4-Trimethylbenzene	**15.0** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
t-Butylbenzene	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
sec-Butylbenzene	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
p-Isopropyltoluene	**9.96** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
n-Butylbenzene	**10.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
trans-Decalin	**J 5.29** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
cis-Decalin	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Decalins	**23.3** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Decalins	**60.9** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Decalins	**61.9** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Decalins	**113** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)thiophene	**J 4.26** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzo(b)thiophenes	**10.1** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzo(b)thiophenes	**13.9** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzo(b)thiophenes	**10.2** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzo(b)thiophenes	**7.72** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Naphthalene	**137** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylnaphthalene	**126** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methylnaphthalene	**53.7** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Naphthalenes	**109** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Naphthalenes	**236** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Naphthalenes	**396** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Naphthalenes	**391** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Biphenyl	**58.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Acenaphthylene	**366** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Acenaphthene	**44.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dibenzofuran	**45.4** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Fluorene	**119** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Fluorenes	**389** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Fluorenes	**719** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Fluorenes	**575** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dibenzothiophene	**42.8** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Dibenzothiophenes	**126** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Dibenzothiophenes	**215** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Dibenzothiophenes	**203** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Dibenzothiophenes	**122** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Phenanthrene	**1100** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Anthracene	**682** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Phenanthrenes/Anthracenes	**3080** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Phenanthrenes/Anthracenes	**2770** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Phenanthrenes/Anthracenes	**1490** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Phenanthrenes/Anthracenes	**745** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Retene	**352** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)naphtho(2,1-d)thiophene	**174** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzonaphthothiophenes	**399** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzonaphthothiophenes	**282** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzonaphthothiophenes	**206** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzonaphthothiophenes	**52.6** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Fluoranthene	**3740** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Pyrene	**6360** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Fluoranthenes/Pyrenes	**6500** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Fluoranthenes/Pyrenes	**2770** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Fluoranthenes/Pyrenes	**738** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)fluorene	**626** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(c)fluorene	**306** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylpyrene	**970** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
4-Methylpyrene	**1050** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methylpyrene	**806** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benz(a)anthracene	**3210** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Chrysene/triphenylene	**3300** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C1-Benzo(a)anthracenes/Chrysenes	**3060** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C2-Benzo(a)anthracenes/Chrysenes	**1600** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C3-Benzo(a)anthracenes/Chrysenes	**751** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C4-Benzo(a)anthracenes/Chrysenes	**343** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(b)fluoranthene	**1810** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(j/k)fluoranthene	**2190** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(e)pyrene	**2740** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(a)pyrene	**3480** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Perylene	**811** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Indeno(1,2,3-cd)pyrene	**1550** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dibenzo(a,h)anthracene	**494** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Benzo(g,h,i)perylene	**1720** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Coronene	**384** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Tetramethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Trimethylethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Dimethyldiethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Methyltriethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Tetraethyl lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Total Organic Lead	ND (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,6,10-trimethyldodecane (1380)	**140** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: 54
Initial Volume: 5.11
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment
Units: ug/Kg dry
Analyst: IBM
Prepared: 7/17/25 7:00

Alkylated PAHs

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
2,6,10-trimethyltridecane (1470)	**292** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,6,10-trimethylpentadecane (1650)	**288** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C-17	**296** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Pristane	**644** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
C-18	**144** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Phytane	**493** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
Carbazole	**27.1** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,6-Dimethylnaphthalene	**57.0** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2,3,5-Trimethylnaphthene	**32.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
4-Methyldibenzothiophene	**39.0** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2/3-Methyldibenzothiophene	**38.5** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methyldibenzothiophene	**9.83** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
3-Methylphenanthrene	**682** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylphenanthrene	**718** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
2-Methylanthracene	**423** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
4/9-Methylphenanthrene	**927** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701
1-Methylphenanthrene	**312** (7.28)	3.64	8270 Mod		1	IBM	07/18/25 1:27	F5G0001	FG51701

	%Recovery	Qualifier	Limits
Surrogate: Naphthalene-d8	*70 %*		*50-120*
Surrogate: Perylene-d12	*83 %*		*50-120*
Surrogate: Phenanthrene-d10	*79 %*		*50-120*
Surrogate: Toluene-D8	*76 %*		*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP
Client Sample ID: 1804576-895-S2
Date Sampled: 07/15/25 10:26
Percent Solids: N/A

ESS Laboratory Work Order: F250041
ESS Laboratory Sample ID: F250041-04
Sample Matrix: Sediment

Classical Chemistry

Analyte	Results (RL)	EDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon (Average)	**48300** (500)		TOC-LK		1	CCP	07/23/25 15:39	mg/kg	[CALC]

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Classical Chemistry

Batch DG52240 - General Preparation

Blank

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Organic Carbon (1)	ND	500	mg/kg							
Total Organic Carbon (2)	ND	500	mg/kg							

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Classical Chemistry

Batch DG52240 - General Preparation

LCS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Organic Carbon (1)	9320	500	mg/kg	10010		93	80-120			
Total Organic Carbon (2)	9560	500	mg/kg	10010		96	80-120			

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Classical Chemistry

Batch DG52240 - General Preparation

LCS Dup

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Organic Carbon (1)	10000	500	mg/kg	10010		100	80-120	7	25	
Total Organic Carbon (2)	9180	500	mg/kg	10010		92	80-120	4	25	

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

Blank

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Benzene	14.5	4.00	ug/Kg wet							
C1-Benzene	5.79	4.00	ug/Kg wet							
C2-Benzenes	2.23	4.00	ug/Kg wet							J
C3-Benzenes	2.91	4.00	ug/Kg wet							J
C4-Benzenes	ND	4.00	ug/Kg wet							
C5-Benzenes	ND	4.00	ug/Kg wet							
Methylcyclohexane	ND	4.00	ug/Kg wet							
Toluene	7.92	4.00	ug/Kg wet							
Ethylbenzene	ND	4.00	ug/Kg wet							
m,p-Xylene	ND	4.00	ug/Kg wet							
Styrene	ND	4.00	ug/Kg wet							
o-Xylene	ND	4.00	ug/Kg wet							
Isopropylbenzene	ND	4.00	ug/Kg wet							
n-Propylbenzene	ND	4.00	ug/Kg wet							
1,3,5-Trimethylbenzene	ND	4.00	ug/Kg wet							
1,2,3-Trimethylbenzene	ND	4.00	ug/Kg wet							
1,2,4-Trimethylbenzene	ND	4.00	ug/Kg wet							
t-Butylbenzene	ND	4.00	ug/Kg wet							
sec-Butylbenzene	ND	4.00	ug/Kg wet							
p-Isopropyltoluene	ND	4.00	ug/Kg wet							
n-Butylbenzene	ND	4.00	ug/Kg wet							
trans-Decalin	ND	4.00	ug/Kg wet							
cis-Decalin	ND	4.00	ug/Kg wet							
C1-Decalins	ND	4.00	ug/Kg wet							
C2-Decalins	ND	4.00	ug/Kg wet							
C3-Decalins	ND	4.00	ug/Kg wet							
C4-Decalins	ND	4.00	ug/Kg wet							
Benzo(b)thiophene	ND	4.00	ug/Kg wet							
C1-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
C2-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
C3-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
C4-Benzo(b)thiophenes	ND	4.00	ug/Kg wet							
Naphthalene	ND	4.00	ug/Kg wet							
2-Methylnaphthalene	ND	4.00	ug/Kg wet							
1-Methylnaphthalene	ND	4.00	ug/Kg wet							
C1-Naphthalenes	ND	4.00	ug/Kg wet							
C2-Naphthalenes	ND	4.00	ug/Kg wet							
C3-Naphthalenes	ND	4.00	ug/Kg wet							
C4-Naphthalenes	ND	4.00	ug/Kg wet							
Biphenyl	2.40	4.00	ug/Kg wet							J
Acenaphthylene	ND	4.00	ug/Kg wet							
Acenaphthene	ND	4.00	ug/Kg wet							
Dibenzofuran	ND	4.00	ug/Kg wet							
Fluorene	ND	4.00	ug/Kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570				
C1-Fluorenes	ND	4.00	ug/Kg wet	
C2-Fluorenes	ND	4.00	ug/Kg wet	
C3-Fluorenes	ND	4.00	ug/Kg wet	
Dibenzothiophene	ND	4.00	ug/Kg wet	
C1-Dibenzothiophenes	ND	4.00	ug/Kg wet	
C2-Dibenzothiophenes	ND	4.00	ug/Kg wet	
C3-Dibenzothiophenes	ND	4.00	ug/Kg wet	
C4-Dibenzothiophenes	ND	4.00	ug/Kg wet	
Phenanthrene	ND	4.00	ug/Kg wet	
Anthracene	ND	4.00	ug/Kg wet	
C1-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
C2-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
C3-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
C4-Phenanthrenes/Anthracenes	ND	4.00	ug/Kg wet	
Retene	ND	4.00	ug/Kg wet	
Benzo(b)naphtho(2,1-d)thiophene	ND	4.00	ug/Kg wet	
C1-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
C2-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
C3-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
C4-Benzonaphthothiophenes	ND	4.00	ug/Kg wet	
Fluoranthene	ND	4.00	ug/Kg wet	
Pyrene	ND	4.00	ug/Kg wet	
C1-Fluoranthenes/Pyrenes	ND	4.00	ug/Kg wet	
C2-Fluoranthenes/Pyrenes	ND	4.00	ug/Kg wet	
C3-Fluoranthenes/Pyrenes	ND	4.00	ug/Kg wet	
Benzo(b)fluorene	ND	4.00	ug/Kg wet	
Benzo(c)fluorene	ND	4.00	ug/Kg wet	
2-Methylpyrene	ND	4.00	ug/Kg wet	
4-Methylpyrene	ND	4.00	ug/Kg wet	
1-Methylpyrene	ND	4.00	ug/Kg wet	
Benz(a)anthracene	ND	4.00	ug/Kg wet	
Chrysene/triphenylene	ND	4.00	ug/Kg wet	
C1-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
C2-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
C3-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
C4-Benzo(a)anthracenes/Chrysenes	ND	4.00	ug/Kg wet	
Benzo(b)fluoranthene	ND	4.00	ug/Kg wet	
Benzo(j/k)fluoranthene	ND	4.00	ug/Kg wet	
Benzo(e)pyrene	ND	4.00	ug/Kg wet	
Benzo(a)pyrene	ND	4.00	ug/Kg wet	
Perylene	ND	4.00	ug/Kg wet	
Indeno(1,2,3-cd)pyrene	ND	4.00	ug/Kg wet	
Dibenzo(a,h)anthracene	ND	4.00	ug/Kg wet	
Benzo(g,h,i)perylene	ND	4.00	ug/Kg wet	
Coronene	3.16	4.00	ug/Kg wet	J
Tetramethyl lead	ND	4.00	ug/Kg wet	
Trimethylethyl lead	ND	4.00	ug/Kg wet	
Dimethyldiethyl lead	ND	4.00	ug/Kg wet	

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570						
Methyltriethyl lead	ND	4.00	ug/Kg wet			
Tetraethyl lead	ND	4.00	ug/Kg wet			
Total Organic Lead	ND	4.00	ug/Kg wet			
2,6,10-trimethyldodecane (1380)	ND	4.00	ug/Kg wet			
2,6,10-trimethyltridecane (1470)	ND	4.00	ug/Kg wet			
2,6,10-trimethylpentadecane (1650)	ND	4.00	ug/Kg wet			
C-17	4.73	4.00	ug/Kg wet			
Pristane	ND	4.00	ug/Kg wet			
C-18	5.92	4.00	ug/Kg wet			
Phytane	ND	4.00	ug/Kg wet			
Carbazole	ND	4.00	ug/Kg wet			
2,6-Dimethylnaphthalene	ND	4.00	ug/Kg wet			
2,3,5-Trimethylnaphthene	ND	4.00	ug/Kg wet			
4-Methyldibenzothiophene	ND	4.00	ug/Kg wet			
2/3-Methyldibenzothiophene	ND	4.00	ug/Kg wet			
1-Methyldibenzothiophene	ND	4.00	ug/Kg wet			
3-Methylphenanthrene	ND	4.00	ug/Kg wet			
2-Methylphenanthrene	ND	4.00	ug/Kg wet			
2-Methylanthracene	ND	4.00	ug/Kg wet			
4/9-Methylphenanthrene	ND	4.00	ug/Kg wet			
1-Methylphenanthrene	ND	4.00	ug/Kg wet			
Surrogate: Naphthalene-d8	*311*		ug/Kg wet	*400.0*	*78*	*50-120*
Surrogate: Perylene-d12	*269*		ug/Kg wet	*400.0*	*67*	*50-120*
Surrogate: Phenanthrene-d10	*322*		ug/Kg wet	*400.0*	*81*	*50-120*
Surrogate: Toluene-D8	*344*		ug/Kg wet	*400.0*	*86*	*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

LCS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Benzene	360	4.00	ug/Kg wet	400.0		90	60-130			
Methylcyclohexane	259	4.00	ug/Kg wet	400.0		65	60-130			
Toluene	315	4.00	ug/Kg wet	400.0		79	60-130			
Ethylbenzene	317	4.00	ug/Kg wet	400.0		79	60-130			
m,p-Xylene	319	4.00	ug/Kg wet	400.0		80	60-130			
Styrene	314	4.00	ug/Kg wet	400.0		78	60-130			
o-Xylene	324	4.00	ug/Kg wet	400.0		81	60-130			
Isopropylbenzene	323	4.00	ug/Kg wet	400.0		81	60-130			
n-Propylbenzene	296	4.00	ug/Kg wet	400.0		74	60-130			
1,3,5-Trimethylbenzene	299	4.00	ug/Kg wet	400.0		75	60-130			
1,2,3-Trimethylbenzene	311	4.00	ug/Kg wet	400.0		78	60-130			
1,2,4-Trimethylbenzene	294	4.00	ug/Kg wet	400.0		73	60-130			
t-Butylbenzene	295	4.00	ug/Kg wet	400.0		74	60-130			
sec-Butylbenzene	294	4.00	ug/Kg wet	400.0		73	60-130			
p-Isopropyltoluene	315	4.00	ug/Kg wet	400.0		79	60-130			
n-Butylbenzene	289	4.00	ug/Kg wet	400.0		72	60-130			
trans-Decalin	308	4.00	ug/Kg wet	400.0		77	60-130			
cis-Decalin	327	4.00	ug/Kg wet	400.0		82	60-130			
Benzo(b)thiophene	293	4.00	ug/Kg wet	400.0		73	60-130			
Naphthalene	296	4.00	ug/Kg wet	400.0		74	60-130			
2-Methylnaphthalene	305	4.00	ug/Kg wet	400.0		76	60-130			
1-Methylnaphthalene	305	4.00	ug/Kg wet	400.0		76	60-130			
Biphenyl	307	4.00	ug/Kg wet	400.0		77	60-130			
Acenaphthylene	342	4.00	ug/Kg wet	400.0		86	60-130			
Acenaphthene	316	4.00	ug/Kg wet	400.0		79	60-130			
Dibenzofuran	302	4.00	ug/Kg wet	400.0		76	60-130			
Fluorene	316	4.00	ug/Kg wet	400.0		79	60-130			
Dibenzothiophene	311	4.00	ug/Kg wet	400.0		78	60-130			
Phenanthrene	324	4.00	ug/Kg wet	400.0		81	60-130			
Anthracene	325	4.00	ug/Kg wet	400.0		81	60-130			
Retene	356	4.00	ug/Kg wet	400.0		89	60-130			
Benzo(b)naphtho(2,1-d)thiophene	327	4.00	ug/Kg wet	400.0		82	60-130			
Fluoranthene	356	4.00	ug/Kg wet	400.0		89	60-130			
Pyrene	353	4.00	ug/Kg wet	400.0		88	60-130			
Benz(a)anthracene	346	4.00	ug/Kg wet	400.0		87	60-130			
Chrysene/triphenylene	336	4.00	ug/Kg wet	400.0		84	60-130			
Benzo(b)fluoranthene	322	4.00	ug/Kg wet	400.0		81	60-130			
Benzo(j/k)fluoranthene	311	4.00	ug/Kg wet	400.0		78	60-130			
Benzo(e)pyrene	310	4.00	ug/Kg wet	400.0		77	60-130			
Benzo(a)pyrene	308	4.00	ug/Kg wet	400.0		77	60-130			
Perylene	309	4.00	ug/Kg wet	400.0		77	60-130			
Indeno(1,2,3-cd)pyrene	325	4.00	ug/Kg wet	400.0		81	60-130			
Dibenzo(a,h)anthracene	303	4.00	ug/Kg wet	400.0		76	60-130			
Benzo(g,h,i)perylene	291	4.00	ug/Kg wet	400.0		73	60-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570						
Coronene	275	4.00	ug/Kg wet	400.0	69	60-130
Surrogate: Naphthalene-d8	*294*		ug/Kg wet	*400.0*	*74*	*50-120*
Surrogate: Perylene-d12	*307*		ug/Kg wet	*400.0*	*77*	*50-120*
Surrogate: Phenanthrene-d10	*336*		ug/Kg wet	*400.0*	*84*	*50-120*
Surrogate: Toluene-D8	*334*		ug/Kg wet	*400.0*	*84*	*50-120*

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

Duplicate **Source: F250041-04** **D+**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Benzene	39.1	6.83	ug/Kg dry		58.8			40	50	
C1-Benzene	118	6.83	ug/Kg dry		216			59	50	
C2-Benzenes	76.8	6.83	ug/Kg dry		130			52	50	
C3-Benzenes	27.5	6.83	ug/Kg dry		37.2			30	50	
C4-Benzenes	23.9	6.83	ug/Kg dry		29.5			21	50	
C5-Benzenes	21.5	6.83	ug/Kg dry		30.8			36	50	
Methylcyclohexane	ND	6.83	ug/Kg dry		5.95				50	
Toluene	148	6.83	ug/Kg dry		270			58	50	
Ethylbenzene	6.85	6.83	ug/Kg dry		11.4			50	50	
m,p-Xylene	101	6.83	ug/Kg dry		162			47	50	
Styrene	26.5	6.83	ug/Kg dry		49.5			61	50	
o-Xylene	7.82	6.83	ug/Kg dry		12.4			46	50	
Isopropylbenzene	ND	6.83	ug/Kg dry		ND				50	
n-Propylbenzene	ND	6.83	ug/Kg dry		5.79				50	
1,3,5-Trimethylbenzene	4.37	6.83	ug/Kg dry		8.21			61	50	J
1,2,3-Trimethylbenzene	4.20	6.83	ug/Kg dry		4.64			10	50	J
1,2,4-Trimethylbenzene	8.98	6.83	ug/Kg dry		15.0			51	50	
t-Butylbenzene	ND	6.83	ug/Kg dry		ND				50	
sec-Butylbenzene	ND	6.83	ug/Kg dry		ND				50	
p-Isopropyltoluene	7.01	6.83	ug/Kg dry		9.96			35	50	
n-Butylbenzene	6.21	6.83	ug/Kg dry		10.8			54	50	J
trans-Decalin	4.15	6.83	ug/Kg dry		5.29			24	50	J
cis-Decalin	ND	6.83	ug/Kg dry		ND				50	
C1-Decalins	20.5	6.83	ug/Kg dry		23.3			12	50	
C2-Decalins	43.9	6.83	ug/Kg dry		60.9			33	50	
C3-Decalins	46.5	6.83	ug/Kg dry		61.9			28	50	
C4-Decalins	89.4	6.83	ug/Kg dry		113			23	50	
Benzo(b)thiophene	ND	6.83	ug/Kg dry		4.26				50	
C1-Benzo(b)thiophenes	6.95	6.83	ug/Kg dry		10.1			37	50	
C2-Benzo(b)thiophenes	10.8	6.83	ug/Kg dry		13.9			25	50	
C3-Benzo(b)thiophenes	7.24	6.83	ug/Kg dry		10.2			34	50	
C4-Benzo(b)thiophenes	ND	6.83	ug/Kg dry		7.72				50	
Naphthalene	79.1	6.83	ug/Kg dry		137			54	50	
2-Methylnaphthalene	76.0	6.83	ug/Kg dry		126			49	50	
1-Methylnaphthalene	28.9	6.83	ug/Kg dry		53.7			60	50	
C1-Naphthalenes	63.8	6.83	ug/Kg dry		109			52	50	
C2-Naphthalenes	148	6.83	ug/Kg dry		236			46	50	
C3-Naphthalenes	264	6.83	ug/Kg dry		396			40	50	
C4-Naphthalenes	251	6.83	ug/Kg dry		391			44	50	
Biphenyl	33.4	6.83	ug/Kg dry		58.4			55	50	
Acenaphthylene	261	6.83	ug/Kg dry		366			33	50	
Acenaphthene	24.4	6.83	ug/Kg dry		44.4			58	50	
Dibenzofuran	37.2	6.83	ug/Kg dry		45.4			20	50	
Fluorene	72.8	6.83	ug/Kg dry		119			48	50	

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570

C1-Fluorenes	252	6.83	ug/Kg dry	389	43	50
C2-Fluorenes	424	6.83	ug/Kg dry	719	52	50
C3-Fluorenes	305	6.83	ug/Kg dry	575	61	50
Dibenzothiophene	29.4	6.83	ug/Kg dry	42.8	37	50
C1-Dibenzothiophenes	80.1	6.83	ug/Kg dry	126	45	50
C2-Dibenzothiophenes	124	6.83	ug/Kg dry	215	54	50
C3-Dibenzothiophenes	116	6.83	ug/Kg dry	203	54	50
C4-Dibenzothiophenes	67.6	6.83	ug/Kg dry	122	57	50
Phenanthrene	563	6.83	ug/Kg dry	1100	65	50
Anthracene	413	6.83	ug/Kg dry	682	49	50
C1-Phenanthrenes/Anthracenes	1530	6.83	ug/Kg dry	3080	67	50
C2-Phenanthrenes/Anthracenes	1490	6.83	ug/Kg dry	2770	60	50
C3-Phenanthrenes/Anthracenes	840	6.83	ug/Kg dry	1490	56	50
C4-Phenanthrenes/Anthracenes	398	6.83	ug/Kg dry	745	61	50
Retene	225	6.83	ug/Kg dry	352	44	50
Benzo(b)naphtho(2,1-d)thiophene	95.3	6.83	ug/Kg dry	174	58	50
C1-Benzonaphthothiophenes	212	6.83	ug/Kg dry	399	61	50
C2-Benzonaphthothiophenes	147	6.83	ug/Kg dry	282	63	50
C3-Benzonaphthothiophenes	110	6.83	ug/Kg dry	206	60	50
C4-Benzonaphthothiophenes	28.2	6.83	ug/Kg dry	52.6	61	50
Fluoranthene	1840	6.83	ug/Kg dry	3740	68	50
Pyrene	2870	6.83	ug/Kg dry	6360	76	50
C1-Fluoranthenes/Pyrenes	3010	6.83	ug/Kg dry	6500	73	50
C2-Fluoranthenes/Pyrenes	1460	6.83	ug/Kg dry	2770	62	50
C3-Fluoranthenes/Pyrenes	412	6.83	ug/Kg dry	738	57	50
Benzo(b)fluorene	292	6.83	ug/Kg dry	626	73	50
Benzo(c)fluorene	123	6.83	ug/Kg dry	306	85	50
2-Methylpyrene	451	6.83	ug/Kg dry	970	73	50
4-Methylpyrene	494	6.83	ug/Kg dry	1050	72	50
1-Methylpyrene	359	6.83	ug/Kg dry	806	77	50
Benz(a)anthracene	1620	6.83	ug/Kg dry	3210	66	50
Chrysene/triphenylene	1690	6.83	ug/Kg dry	3300	65	50
C1-Benzo(a)anthracenes/Chrysenes	1590	6.83	ug/Kg dry	3060	64	50
C2-Benzo(a)anthracenes/Chrysenes	912	6.83	ug/Kg dry	1600	55	50
C3-Benzo(a)anthracenes/Chrysenes	452	6.83	ug/Kg dry	751	50	50
C4-Benzo(a)anthracenes/Chrysenes	179	6.83	ug/Kg dry	343	63	50
Benzo(b)fluoranthene	938	6.83	ug/Kg dry	1810	63	50
Benzo(j/k)fluoranthene	1010	6.83	ug/Kg dry	2190	74	50
Benzo(e)pyrene	1240	6.83	ug/Kg dry	2740	75	50
Benzo(a)pyrene	1560	6.83	ug/Kg dry	3480	76	50
Perylene	371	6.83	ug/Kg dry	811	74	50
Indeno(1,2,3-cd)pyrene	781	6.83	ug/Kg dry	1550	66	50
Dibenzo(a,h)anthracene	274	6.83	ug/Kg dry	494	57	50
Benzo(g,h,i)perylene	813	6.83	ug/Kg dry	1720	72	50
Coronene	154	6.83	ug/Kg dry	384	85	50
Tetramethyl lead	ND	6.83	ug/Kg dry	ND		50
Trimethylethyl lead	ND	6.83	ug/Kg dry	ND		50
Dimethyldiethyl lead	ND	6.83	ug/Kg dry	ND		50

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

Quality Control Data

Alkylated PAHs

Batch FG51701 - 3570									
Methyltriethyl lead	ND	6.83	ug/Kg dry		ND			50	
Tetraethyl lead	ND	6.83	ug/Kg dry		ND			50	
Total Organic Lead	ND	6.83	ug/Kg dry		ND			50	
2,6,10-trimethyldodecane (1380)	104	6.83	ug/Kg dry		140		29	50	
2,6,10-trimethyltridecane (1470)	254	6.83	ug/Kg dry		292		14	50	
2,6,10-trimethylpentadecane (1650)	214	6.83	ug/Kg dry		288		29	50	
C-17	217	6.83	ug/Kg dry		296		31	50	
Pristane	445	6.83	ug/Kg dry		644		37	50	
C-18	99.7	6.83	ug/Kg dry		144		36	50	
Phytane	306	6.83	ug/Kg dry		493		47	50	
Carbazole	20.5	6.83	ug/Kg dry		27.1		28	50	
2,6-Dimethylnaphthalene	32.8	6.83	ug/Kg dry		57.0		54	50	
2,3,5-Trimethylnaphthene	21.0	6.83	ug/Kg dry		32.5		43	50	
4-Methyldibenzothiophene	23.3	6.83	ug/Kg dry		39.0		50	50	
2/3-Methyldibenzothiophene	24.3	6.83	ug/Kg dry		38.5		45	50	
1-Methyldibenzothiophene	5.36	6.83	ug/Kg dry		9.83		59	50	J
3-Methylphenanthrene	334	6.83	ug/Kg dry		682		68	50	
2-Methylphenanthrene	363	6.83	ug/Kg dry		718		66	50	
2-Methylanthracene	207	6.83	ug/Kg dry		423		69	50	
4/9-Methylphenanthrene	478	6.83	ug/Kg dry		927		64	50	
1-Methylphenanthrene	137	6.83	ug/Kg dry		312		78	50	
Surrogate: Naphthalene-d8	*487*		ug/Kg dry	*682.6*		*71*	*50-120*		
Surrogate: Perylene-d12	*508*		ug/Kg dry	*682.6*		*74*	*50-120*		
Surrogate: Phenanthrene-d10	*579*		ug/Kg dry	*682.6*		*85*	*50-120*		
Surrogate: Toluene-D8	*409*		ug/Kg dry	*682.6*		*60*	*50-120*		

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP ESS Laboratory Work Order: F250041

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Reported between MDL and MRL
D+	Relative percent difference for duplicate is outside of criteria (D+).
B	Present in Method Blank (B).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: GEI
Client Project ID: Amesbury Former MGP

ESS Laboratory Work Order: F250041

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) F250041

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: Amesbury Former MGP

Project Location: Amesbury, MA

Project Number: 1804576

Project Manager: Ryan Hoffman
781-721-4091 rhoffman@geiconsultants.com

Send Report to: Ryan Hoffman and Jeremy Smalley

labdata@geiconsultants.com

Preservative

None None

Analysis

Sample Handling

Samples Field Filtered
YES NO (NA)

Sampled Shipped With Ice
(YES) NO

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Parent and Alkylated MAHs * PAHs 8270*	TOCs by Lloyd-Kahn	Sample Specific Remarks
1	1804576-894-S1	7/15/25	10:55	SED	1	NMT	X	X	
2	1804576-894-S2		10:56		1		X	X	
3	1804576-895-S1		10:25		1		X	X	
4	1804576-895-S2		10:26		1		X	X	

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1. Nicholas Lavorato	7/15/2025	12:30	1. GEI SAMPLE FRIDGE
2. Fridge	7/15/25	1450	2.
3.	7/15/25	1450	3.
4.	7/15/25	18:18	4. 7/15/25 1818
5.			5. 3.0 on ice

Turnaround Time (Business days):

5-Day X 4-Day ____ 3-Day ____
2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

GIRI

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants

Shipped/Delivered Via: ESS Courier

ESS Project ID: F250041
Date Received: 7/15/2025
Project Due Date: 7/22/2025
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp (°C): 3 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By/Acid Lot#:
    b. If dissolved metals are requested, are they: Field Filtered / To Be Lab Filtered
    c. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	2017	Yes	N/A	Yes	4 oz. Jar	NP	
2	2018	Yes	N/A	Yes	4 oz. Jar	NP	
3	2019	Yes	N/A	Yes	4 oz. Jar	NP	
4	2020	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review

Were all containers scanned into storage/lab? Initials Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 7/16/25 13:26
Reviewed By: Date & Time: 7/16/25 1339