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RELEASE ABATEMENT MEASURE (RAM) PLAN
SITE PRECLEARING EXCAVATION WORK
NORTHEASTERN UNIVERSITY - MATTHEWS ARENA
BOSTON, MASSACHUSETTS
RTN 3-37948

by
Haley & Aldrich, Inc.
Boston, Massachusetts

for
Massachusetts Department of Environmental Protection
Woburn, Massachusetts

File No. 134206-012
April 2024

HALEY & ALDRICH, INC.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

19 April 2024
File No. 134206-012

Massachusetts Department of Environmental Protection
Northeast Regional Office
150 Presidential Way
Woburn, Massachusetts 01801

Attention: Bureau of Waste Site Cleanup

Subject: Release Abatement Measure (RAM) Plan
Site Preclearing Excavation Work
Northeastern University - Matthews Arena
Boston, Massachusetts
RTN 3-37948

Ladies and Gentlemen:

On behalf of our client, Northeastern University, Haley & Aldrich, Inc. (Haley & Aldrich) is submitting this Release Abatement Measure (RAM) Plan in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0440 and 40.0444 for the management of soil impacted with remediation waste, including asbestos containing material (ACM) debris, and other site activities. Remedial response actions will be conducted during site enabling work for the future redevelopment of 238-262 Saint Botolph Street, on Northeastern University's campus in Boston, Massachusetts (Figure 1).

The work will be conducted within the limits of Release Tracking Number (RTN) 3-37948 (the "Site"). The Site is associated with Reportable Concentrations of total petroleum hydrocarbons (TPH), semi-volatile organic compounds (SVOCs), arsenic and lead in fill soil samples. In addition, debris containing ACM has been previously identified in Fill at the west end of the Site.

The objectives of work covered under this RAM Plan is to preclear and remove soils containing ACM debris as an early site enabling activity. Future construction will be conducted under a RAM Plan Modification and/or separate RAM Plan. A Non-Traditional Asbestos Abatement Work Plan (NTWP) has is being submitted concurrently to the Massachusetts Department of Environmental Protection (MassDEP) Bureau of Air and Waste (BAW) with this RAM Plan. Management of soil containing ACM debris will not occur until the NTWP has been approved by BAW.

Pursuant to 310 CMR 40.0442(3) a risk characterization was not required as part of this RAM. RAM activities do not include the construction of a permanent structure and, therefore will not impede the implementation of future response actions.

The RAM Transmittal Form (BWSC106) is being submitted concurrently with this RAM Plan via eDEP, and a copy is provided in Appendix A. Public notice of the proposed RAM implementation has been provided to both the City of Boston Board of Health and the City of Boston Mayor's Office to satisfy the notification requirement under 310 CMR 40.1403(3)(d). Copies of these notices are included in Appendix A.

As this RAM Plan proposes off-Site disposition of over 1,500 cubic yards (cu yd) of Remediation Waste, a Certification of Financial Assurance in accordance with 310 CMR 40.0442(5) is required. A copy of this certification is provided in Appendix A.

If you have any questions or require additional information, please do not hesitate to contact the undersigned at 617.886.7400.

Sincerely yours,
HALEY & ALDRICH, INC.

Brittany Rosenberg
Staff Environmental Engineer

Mathew S. Plourde, EIT
Assistant Project Manager

Cole E. Worthy, LSP
Senior Associate

Enclosures

c: Northeastern University; Attn: Catherine Walsh, Cara Morelli, and Ryan Prentice

https://haleyaldrich.sharepoint.com/sites/NortheasternUniversity/Shared Documents/134206.New Arena/012 - New Arena-After SD/Deliverables/2024-03-MCP-RAM Summer 2024/Text/2024-0419-HAI-NU Arena RAM Plan_F.docx

HALEY & ALDRICH, INC.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

SIGNATURE PAGE FOR

RELEASE ABATEMENT MEASURE (RAM) PLAN
SITE PRECLEARING EXCAVATION WORK
NORTHEASTERN UNIVERSITY - MATTHEWS ARENA
BOSTON, MASSACHUSETTS
RTN 3-37948

PREPARED FOR
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
WOBURN, MASSACHUSETTS

PREPARED BY:

Brittany Rosenberg
Staff Environmental Engineer
Haley & Aldrich, Inc.

REVIEWED AND APPROVED BY:

Mathew S. Plourde, EIT
Assistant Project Manager
Haley & Aldrich, Inc.

Cole E. Worthy, LSP
Senior Associate
Haley & Aldrich, Inc.

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E	Health and Safety Specification
F	Greener Cleanups Best Management Practices (BMPs)

1. RAM Plan Components

This Release Abatement Measure (RAM) Plan addresses conditions that will be encountered during Remediation Waste removal, within the southwestern parking lot of Matthew's Arena at Northeastern University in Boston, Massachusetts.

As outlined in the Massachusetts Contingency Plan (MCP) at 310 CMR 40.0444, a RAM Plan must include the following information:

1. Name, address, telephone number, and relationship to the RAM Site of the person assuming responsibility for conducting the RAM;
2. Description of the release(s), RAM Site conditions, and surrounding receptors;
3. Objective(s), specific plan(s), and proposed implementation schedule, including, as appropriate, descriptions, plans, or sketches of the RAM Site, any proposed structures to be constructed or installed in the project area, and any proposed investigative and/or remedial installations;
4. Statement as to whether Remediation Waste, Remedial Wastewater, and/or Remedial Additives will be excavated, collected, stored, treated, discharged, applied, reused, or otherwise managed at the Site;
5. Proposed environmental monitoring plan, where appropriate for implementation during and/or after the RAM;
6. Listing of federal, state, and/or local permits needed for conducting the RAM;
7. Seal and signature of the Licensed Site Professional (LSP) who prepared the RAM Plan;
8. Certification of financial assurance if management of greater than 1,500 cubic yards (cu yd) of Remediation Waste is planned; and
9. Any other information required by the Department during its review and evaluation of the RAM Plan, determines to be necessary to complete said Plan, in view of site-specific circumstances and conditions.

This RAM Plan also addresses the requirements of 310 CMR 40.0191(3)(e) for conducting Greener Cleanups as outlined in Massachusetts Department of Environmental Protection (MassDEP) Guidance WSC #14-150.

These items are addressed in the following sections of this report.

2. Background Information

2.1 RAM SITE CONDITIONS

The limits of the RAM are located within the limits of Matthew's Arena property and the Disposal Site ("Site"), Release Tracking Number (RTN) 3-37948. The Site is an approximately 2.3-acre area at 238-262 Saint Botolph Street in Boston, Massachusetts. The Site is bordered by Saint Botolph Street to the northwest, Gainsborough Street to the southwest, Public Alley No. 823 to the northeast, and the Massachusetts Avenue Massachusetts Bay Transportation Authority (MBTA) Orange Line Station to the Southeast, as shown on 2. Existing grades range from elevation (El.) 21 to 16[1] at the exterior of Matthews Arena.

2.2 HISTORICAL SITE USE

Haley & Aldrich, Inc. (Haley & Aldrich) reviewed available historical Sanborn Fire Insurance Maps, Ward Maps, Bromley Maps, and previous reports within the approximate limits of the Disposal Site. The 1851 Bromley Map indicates that the property and surrounding area were undeveloped. By 1890, the area was developed with roads and a row of residential dwellings along Gainsborough Street from Saint Botolph Street (north) to the railroad tracks (south). By 1897, the property was developed with two streets that intersect Saint Botolph Street: Waldo Street and Whitman Street. Several railroad companies operated tracks that abut the subject property to the south. The majority of the property was developed with the Boston Arena and associated parking starting in 1909.

The 1914 Sanborn map depicts a building along the entire west end of the arena for the ice plant, which was utilized as a rest and pool room for the Boston University gym by 1938. The 1938 Sanborn map depicts a lobby at the eastern portion of the arena building. By 1951, a portion of the building on the western edge of the arena was demolished, and the remaining building is the current Annex. The Annex building was rebuilt in 1949 with storage and refrigeration machinery on the first floor and a gym on the second floor. The residences on the west side of the property were demolished between 1951 and 1988. Northeastern University acquired and began occupying the property in the early 1970s.

2.3 DESCRIPTION OF THE RELEASE

2.3.1 RTN 3-37948

Reportable concentrations of total petroleum hydrocarbons (TPH), lead, and semi-volatile organic compounds (SVOCs; 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, biphenyl, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene) were identified during a soil precharacterization program conducted between July and August 2022. A Release Notification Form (RNF) Transmittal Form BWSC103 was submitted to the MassDEP on 7 February 2023. MassDEP subsequently assigned RTN 3-37948 to the release. During the December 2023 soil precharacterization program, acenaphthylene and arsenic were detected at concentration levels greater than applicable RCS-1 criteria, and benzo(b)fluoranthene, biphenyl, dibenz(a,h)anthracene, and lead were detected at concentrations greater than those previously reported. As a result, a revised RNF Transmittal Form BWSC103 was submitted to the MassDEP on 7 February 2024.

[1] Elevations reference the Boston City Base (BCB) datum.

The presence of hydrocarbons detected in soil is attributable to historic Site filling. The presence of SVOCs and total lead detected in fill soil greater than applicable MCP RCS-1 thresholds is attributable to the presence of coal ash, and asphalt pieces observed during the subsurface exploration programs.

2.3.2 Soil Containing ACM Debris

Test pit excavations performed at the Site in 2022 identified significant buried building debris, generally greater than 50 percent, on the west side of the Site along Gainsborough Street where historical residential structures ("Flats") were formerly located in the early 1900s (See Illustration 1).

Illustration 1 – Excerpt from 1914 Sanborn Map – North is to the top

Test pit excavation uncovered existing foundations left in place that generally align with the configuration of the historical Flats. A total of 16 debris samples were collected from test pit excavations HA22-TP3, HA22-TP4, and HA22-TP5 at depths ranging from 1 to 9 feet (ft) below the ground surface (bgs) during the 2022 test pit excavations. Samples were submitted to Optimum Analytical and Consulting, LLC (Optimum) in Nashua, New Hampshire for Polarized Light Microscopy (PLM) testing for the presence of asbestos. PLM results indicated that three samples had presence of asbestos fibers including Sample 4 collected from test pit HA22-TP3 at 7 ft bgs, Sample 10 collected from test pit HA22-TP4 at 9 ft bgs, and Sample 15 collected from test pit HA22-TP5 at 7 ft bgs.

Test pit excavations designated as HA23-TP1 to HA23-TP5 performed in December 2023 were located at the assumed boundary between former flats and the remainder of the Site to attempt to delineate the two areas. A transition from significant debris at the west side of the test pit to incidental debris on the east side was identified in HA24-TP2 through 5. Fourteen debris samples were collected from the five test pit explorations and were sent to Optimum for PLM analysis. Results indicated that only one debris sample, designated HA23-TP2_0-5B, contained ACM.

Test pit excavations, designated HA23-TP6 to HA23-TP12, were also performed in December 2023. The test pits were excavated across the site, and outside the former Flats area, to inspect site fill soil for potential asbestos-containing debris. No suspect debris was observed in HA23-TP6, HA23-TP9, and HA23-TP10. Seven debris samples were collected from the remainder of the test pits and submitted for PLM analysis at Optimum. ACM debris was found in one of the seven test pits at HA23-TP11. At HA23-TP11, the excavated material was Fill soil with incidental debris. However, two small black fabric scrapes samples were found at HA23-TP11, and PLM analysis identified that the fabric contained 75 to 85 percent

asbestos. Additional details of the test pit exploration programs are provided in Section 3.1.3. Results of the debris samples collected from the Site are provided in Table I.

A Non-Traditional Asbestos Abatement Work Plan (NTWP) is being submitted to the MassDEP Bureau of Air and Waste (BAW) concurrently with this RAM Plan to provide procedures to be followed for soil management and health and safety when disturbing soil containing ACM debris.

2.4 PERSON CONDUCTING THE RAM

The RAM will be conducted by**:**

Northeastern University
360 Huntington Avenue, 316-201
Boston, Massachusetts 02115
Contact: Catherine Walsh
Telephone: 617.594.6092

Catherine Walsh is listed on the electronically submitted BWSC form as the person undertaking this regulatory action. Please note that Catherine Walsh is electronically signing the BWSC form as an authorized representative of Northeastern University and not individually.

The Licensed Site Professional (LSP) assisting in the completion of the RAM is:

Cole E. Worthy, LSP
Senior Associate
LSP #: 6812
Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Boston, Massachusetts 02129-1400
Telephone Number: 617.886.7341

2.5 SURROUNDING RECEPTORS

The Site is in an urban setting in Boston, Massachusetts. Properties in the surrounding area are mostly institutional and commercial in nature. The Site currently consists of an asphalt parking lot, landscaping, and Matthews Arena. RAM activities will be performed adjacent to the Matthews Arena building, as shown on Figure 3. Sensitive receptors, as referenced in 310 CMR 40.0046, include locations within 100 ft of the RAM limits such as a school, daycare, or occupied residence. The New England Conservatory of Music is located across St Botolph Street and approximately 60 ft northwest of the RAM limits and therefore is considered a sensitive receptor. However, as discussed further in Section 4.2.5, the New England Conservatory of Music is located approximately 180 ft northwest of the Toxicity Characteristic Leaching Procedures (TCLP) lead soil treatment area where future remedial additives will be applied.

2.5.1 Human Receptors

For current and foreseeable conditions (i.e., during construction activities), potential human receptors may include construction workers, nearby commercial workers and residents, students at nearby institutional buildings, authorized visitors, trespassers, construction/utility workers, and passers-by.

According to the MassDEP Phase I Site Assessment Map on Figure 3, the Site is not located within 500 ft of a Zone II, Zone A, Interim Wellhead Protection Area (IWPA), or surface water intake. There are no private water supplies, sole source aquifers, or potentially productive aquifers within 500 ft. Category GW-1 is not applicable to groundwater at the Site, because it is not located within a current or potential drinking water source area (310 CMR 40.0932(4)).

During RAM Activities, access to the Site will be restricted by perimeter fencing, which will be secured during non-working hours. During excavation activities, engineering controls (e.g., wetting of soils) will be implemented to mitigate potential off-Site exposure to fugitive dust.

2.5.2 Ecological Receptors

There are no surface water bodies on the Site, and no ecological receptors have been identified. A review of the MassDEP Phase I Site Assessment Map, attached as Figure 3, indicates that no Areas of Critical Environmental Concern (ACECs), Species of Special Concern, Threatened or Endangered Species, Estimated Habitats of Rare Wetlands Wildlife, Priority Habitats of Rare Species, or fresh or saltwater wetlands are located within 500 ft. No Certified Vernal Pools or outstanding resource waters are located within 100 ft.

According to the MassDEP Phase I Site Assessment Map, the Site is not located within 500 ft of a Federal Emergency Management Agency (FEMA) 100-year floodplain.

2.6 LIMITATIONS

This report has been prepared for Northeastern University in accordance with our Agreement. This RAM Plan was prepared by Haley & Aldrich on behalf of Northeastern University for submission to MassDEP in conjunction with an environmental assessment of and the performance of MCP response actions at the Site relative to M.G.L.c.21E and the MCP, 310 CMR 40.0000. The conclusions provided by Haley & Aldrich are based solely on the scope of work conducted and the sources of information referenced in this report. This RAM Plan was prepared for the exclusive use of Northeastern and MassDEP in connection with the MCP response actions described herein and the redevelopment of the Site. There are no intended beneficiaries other than Northeastern University and MassDEP.

Conclusions regarding the RAM Site are based on observations of existing Site conditions, interpretation of Site history and usage information, and the results of the subsurface exploration and laboratory testing activities described in this report.

Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreement or the RAM Plan. Use of this RAM Plan by any person or entity other than Northeastern University and MassDEP for any purpose whatsoever without the express written authorization of Northeastern University and Haley & Aldrich shall be at such other person's or entity's sole risk and shall be without legal exposure or liability to Northeastern University or Haley & Aldrich.

3. RAM Site Characterization

3.1 SUBSURFACE EXPLORATIONS

Subsurface exploration programs consisting of test borings, Geoprobe explorations, and test pit excavations were conducted at the Site in 2022 and 2023 for environmental and geotechnical purposes. The exploration programs are detailed below. Refer to Figure 2 for the designation and approximate location of the explorations.

A summary of soil quality data from recent Haley & Aldrich explorations located within the Site is provided in Table II. Exploration logs of subsurface explorations and laboratory data reports are included in Appendix B and Appendix C, respectively.

Management of ACM debris below the existing Matthew's Arena, identified at HA23-TP11, will be addressed under a future RAM Plan for site redevelopment. Results of the debris samples collected from the Site are provided in Table I.

3.1.1 July and August 2022 Test Borings

Six test borings, designated HA22-B1 to HA22-B6, were drilled by Geologic Earth Exploration, Inc. of Norfolk, Massachusetts (Geologic), to depths of 159 to 188.5 ft bgs at interior and exterior locations and monitored in the field by Haley & Aldrich. One groundwater observation well was installed at the interior test boring HA22-B1 but was abandoned following damage during installation. The test boring exploration program was conducted for geotechnical purposes and to collect soil samples for environmental analytical testing.

3.1.2 July and August 2022 Test Pits

Six test pit explorations, designated HA22-TP1 to HA22-TP6, were performed by J. Derenzo Company at interior and exterior locations and monitored in the field by Haley & Aldrich. The exterior test pits were completed to investigate remnant foundations and obstructions within the Matthews Arena's western parking lot, collect environmental samples, and inspect Fill soil for debris potentially containing asbestos. The interior test pits (HA22-TP1, HA22-TP2, HA22-TP6) were completed to document existing foundation conditions within Matthews Arena. Additional details are provided in Section 2.3.2 above.

3.1.3 December 2023 Test Pit Program

A test pit excavation exploration program monitored in the field by Haley & Aldrich was conducted at the RAM Site and Matthew's Arena from 19 December 2023 through 28 December 2023. Twelve test pits were excavated by James W. Flett Co., Inc. of Belmont, Massachusetts (Flett) to depths ranging from 4.1 to 12.9 ft bgs.

The test pit excavations (designated HA23-TP1 through HA23-TP12) were performed to evaluate bulk quality of the Fill soil, observe any subsurface structures encountered during the exploration, inspect for debris in the Fill soil potentially containing asbestos, and collect soil samples for environmental analytical testing. Select soil samples were screened in the field with a photoionization detector (PID) for the presence of volatile organic compounds (VOCs) as noted on the logs. Additional details are provided in Section 2.3.2 above.

3.1.4 December 2023 Geoprobe Exploration Program

A Geoprobe exploration program, planned and monitored in the field by Haley & Aldrich, was conducted within the proposed RAM Site on 26 and 27 December 2023. Eleven Geoprobe explorations (designated HA24-A1, HA24-A3, HA24-A4, HA24-B3, HA24-B4, A4-TCLP-E1, A4-TCLP-E2, A4-TCLP-N1, A4-TCLP-N2, A4-TCLP-S1, and A4-TCLP-W1) were conducted by Geologic to depths ranging from 5 to 15 ft bgs. Soil was screened in the field with a PID for the presence of VOCs as noted in the attached logs.

The Geoprobe explorations were conducted to collect soil samples for environmental analytical testing for future off-Site disposal of soil and to evaluate the extent of TCLP lead contaminated soil previously found at exploration HA22-TP3 during the previous August 2022 exploration program.

3.1.5 Soil Analysis

During the 2022 and 2023 exploration programs, environmental soil samples were collected from Fill, Organic Deposits, and natural soils present within the depths of the redevelopment area.

Samples collected from test pits and Geoprobe explorations were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts (Alpha) for chemical analyses.

The soil chemical data indicates that the Site Fill soils contain detectable levels of VOCs, SVOCs, TPH, and metals. For the majority of these constituents, the concentrations detected in Fill soil were below applicable MassDEP MCP 2014 RCS-1 Reportable Concentrations with the exception of SVOCs, TPH, and total lead. Additionally, TCLP lead was detected greater than Resource Conservation Recovery Act (RCRA) Hazardous Waste criteria at exploration HA22-TP3 during the August 2022 exploration program. The soil chemical data also indicates that natural soil, Organic and Marine deposits, sampled on the Site do not contain detectable concentrations of constituents greater than RCS-1 Reportable Concentrations.

TCLP lead-failed soil was encountered in Fill soil at one test pit exploration (HA22-TP3) at a depth of 0 to 5 ft bgs, with a concentration of 8.49 milligrams per liter (mg/L). Soils that contain TCLP lead greater than 5 mg/L are considered to be Hazardous Waste, and if excavated, will require in-situ treatment prior to excavation and off-Site disposition. Additional explorations (A4-TCLP-E1, A4-TCLP-E2, A4-TCLP-N1, A4-TCLP-N2, A4-TCLP-S1, and A4-TCLP-W1) were conducted to delineate soil with TCLP lead greater than RCRA Hazardous Waste criteria and surrounding soil. Delineation TCLP samples near HA22-TP3 were below RCRA Hazardous Waste criteria and therefore bounded the area of TCLP lead for potential future treatment and disposal.

Two soil samples collected from locations that exhibited SVOCs greater than RCS-1 (HA22-TP1 at a depth of 0.6 to 4 ft bgs and HA22-B6 at a depth of 1 to 6 ft bgs) were submitted to Microvision Laboratories for examination by PLM and Scanning Electron Microscopy with Energy Dispersive X-Ray Spectroscopy (SEM/EDS) to document the presence of coal, coal ash, wood ash, or asphalt. Results confirmed the presence of coal, coal ash, and wood ash in the HA22-TP1_0.6-4.0 sample and the presence of asphalt and tar from the HA22-B6_1.0-6.0 sample.

3.2 HYDROGEOLOGIC SITE CHARACTERISTICS

Available subsurface data located within and in the vicinity of the Site were used to evaluate subsurface conditions. Available subsurface information includes data from test borings, groundwater observation wells, and historical information for Site use and filling activities. A summary of the subsurface conditions is provided below.

3.2.1 Geologic Conditions

Subsurface conditions have been summarized based on available test boring data test borings. The summary table below indicates the subsurface soil strata encountered in the explorations, in order of occurrence below ground surface. Some strata may not be present at all exploration locations.

Generalized Soil Description	Depth to Top of Stratum (ft)	Thickness of Stratum (ft)	Elevation Top of Stratum, BCB (ft)
Fill	-	7 to 29.5	Ground Surface El. 12 to 20.8
Organic Soils	7 to 29.5	3.5 to 17	El. 5.3 to -16.6
Marine Sand (not present at all explorations)	27 to 28.5	0 to 6.5	El. -7.8 to -9.5
Marine Clay	19.5 to 34	108 to 131.5	El. -7.5 to -20.1
Glacial Till	144 to 160.5	3 to 11	El. -126.7 to -145.3
Bedrock	134 to 167.5	-	El. -117 to -155.3

Refer to Figure 2 for designations and approximate locations of subsurface explorations. Detailed descriptions of the soil conditions are included in the exploration logs in Appendix B.

- The Fill to be excavated is generally described as very loose to medium dense, dark brown silty sand or silt with occasional gravel. Debris found in Fill material in test pit explorations includes up to 50 percent brick, 10 percent coal ash, up to 5 percent clay, and trace debris including wood, mortar, glass, plastic, and other household trash and construction debris. See the exploration logs in Appendix B for complete descriptions of debris found in each test pit exploration. The highest percentage of debris was observed within the RAM work area is attributed to the demolition of the historical “Flats”.

3.2.2 Groundwater

Groundwater levels measured were between El. 4 (11 ft bgs) and El. 7 (14 ft bgs). Remedial excavation related to RAM activities will not exceed 10 ft bgs, and therefore groundwater is not expected to be encountered during RAM activities.

4. Release Abatement Measure Plan

4.1 RAM OBJECTIVES

RAM objectives are to identify, manage, and facilitate off-Site disposal and/or treatment of excavated soils generated during site preclearing remedial excavation activities; appropriately handle and manage materials consisting of remediation waste and ACM debris in soil; perform additional characterization, remedial activities, and other response actions, as needed; and where applicable, to install Protective Covers (i.e., marker barrier, clean Fill, and/or hardscapes) as a risk-reduction MCP response action in areas where excavation is performed and soil containing ACM debris, if any, is left in place.

ACM debris was observed in Fill soil during test pit explorations during soil precharacterization programs. Specific requirements for the management of soil containing ACM debris are included in the NTWP. Management of soil containing ACM debris will not begin until after the NTWP has been approved by MassDEP. A copy of the NTWP is included in Appendix D.

RAM activities are expected to be completed by September 2024. If required, a RAM Status Report documenting the status of the soil management activities completed at the Site will be prepared and submitted to MassDEP in accordance with 310 CMR 40.0445. A RAM Completion Report will be filed following the completion of RAM Activities.

4.2 PLANNED RAM ACTIVITIES

A description of the planned RAM activities is listed below.

4.2.1 Removal of Below-Grade Structures

Removal of below-grade portions of previous building foundations abandoned in place, or other obstructions to future construction activities including brick walls, concrete foundations, granite blocks, concrete slabs, relic foundations, and remnant utilities will be necessary.

Obstructions and relic structures encountered in Fill will be removed and decontaminated by water washing and set aside for disposal as non-asbestos construction debris or recycled in accordance with the NTWP. The wash water used to decontaminate the excavated obstructions will be directed to drain into the excavation resulting in further wetting of the soils. A certified Asbestos Inspector will be on-Site during excavation activities to inspect for any large debris in the Fill soils that may contain ACM debris or be coated with ACM, and to inspect obstructions are washed.

4.2.2 Excavation of Remediation Waste

During construction, approximately 5,000 cu yd of soil presumed to contain ACM debris and classified as Remediation Waste (Soil greater than RCS-1, as defined by the MCP) will be excavated and disposed of off-Site at a RCRA Subtitle D Landfill that is permitted to accept soils containing ACM debris.

Soil containing ACM debris will be handled in accordance with an approved NTWP and will be transported off-Site under an Asbestos Waste Shipment Record (AWSR) and Bill of Lading (BOL). Details regarding the loading, securing, and placarding of soil containing ACM debris are included in the NTWP.

4.2.3 Dust Control

During site preclearing activities, the Contractor will be required to employ dust control measures to minimize the creation of airborne dust. The primary form of dust control to be utilized to minimize fugitive emissions at the RAM Site will be the application of water. Perimeter fiber and PM10 dust monitoring will be performed as described in Section 4.5 below. If one of the action levels is exceeded at the perimeter, then the Contractor will suspend dust-generating activities until after further dust control method(s) is (are) implemented.

4.2.4 Temporary Stockpiling

If required, excavated soil will be temporarily stockpiled within the limits of the asbestos exclusion area. Temporary stockpiles will be placed on polyethylene sheeting and covered with polyethylene and ballast material to protect against water or wind erosion and to minimize volatilization of soil contaminants (if present). Within the remedial excavation limits, the soil to be excavated has been precharacterized and will be directly loaded onto trucks for transportation to appropriate off-Site receiving facilities. Temporary stockpiling of soil containing ACM debris will be limited to less than 100 cy at any time, per the NTWP.

4.2.5 Treatment of TCLP Contaminated Soils within the RAM Site

TCLP lead-contaminated soils (leachable lead equal to or greater than 5 mg/L) were identified within the limits of the site preclearing/remedial excavation. Approximately 500 cu yd (850 tons) of soil may require in-situ treatment from the ground surface to approximately 10 ft bgs.

The impacted soil will be treated in-place by a treatment method to be selected by the Contractor (e.g., by the application of Portland cement [4 to 6 percent by weight], Neat Cement Ready-Mix [cement and water slurry], Enviroblend [a proprietary treatment mix]), or equivalent. The treated soil will be sampled and tested by the treatment Contractor for TCLP lead at a frequency of approximately one sample per 100 tons and reclassified as non-hazardous waste if the results indicate that TCLP lead is below 5 mg/L. Treated (de-characterized) material will be transported off-Site to an approved facility for disposal as ACM debris in soil following successful treatment. The treatment is anticipated to require a one-time application. If post-treatment confirmatory testing results indicate that TCLP lead is greater than 5 mg/L, then the soil will be retreated until TCLP lead is below the treatment criteria of 5 mg/L, or the soil may be excavated and disposed of as characteristic hazardous waste.

The New England Conservatory of Music is located across St Botolph Street and approximately 60 ft northwest of the RAM limits and therefore is considered a sensitive receptor as specified at 310 CMR 40.0046(3). However, the New England Conservatory of Music is located approximately 180 ft northwest of the TCLP lead soil treatment area where future remedial additives will be applied. Accordingly, neither prior approval from MassDEP, nor a Remedial Additives Plan are required.

4.2.6 Management of Construction Dewatering

Depth to groundwater is approximately 11 to 14 ft bgs based on previous observations. Depth of remedial excavations for RAM activities are unlikely to extend below the water table. However, if groundwater is encountered, limited excavation will be performed in the wet to remove obstructions, or localized pumps will be used to place backfill material in-the-dry and the groundwater will be recharged within the remedial excavation. No off-site discharge is planned therefore, a dewatering permit will be

obtained for this phase of work. Groundwater has not been tested and is not considered to be part of the Site.

4.2.7 RAM Site Access Control

During RAM activities, access to the work area of the RAM will be restricted to authorized persons. A perimeter fence will be in place and secured during non-working hours. Additionally, the work areas where soil containing ACM debris are being excavated will be operated as an exclusion zone, isolated from adjacent areas using asbestos warning tape and other appropriate methods as detailed in the NTWP.

The NTWP outlines methods for decontamination of waste transport vehicles and the bucket of excavators used to handle and remove soil containing ACM debris.

4.2.8 Loading and Wheel Wash

Remediation Waste removed will be loaded within the limits of the Site. Trucks and containers leaving the RAM Site shall be covered and cleaned of debris that might fall from the trucks during transport. Details regarding the wheel wash construction and decontamination of equipment are provided in the NTWP.

4.3 REMEDIATION WASTE MANAGEMENT

This RAM includes the excavation and disposal of approximately 5,000 cu yd of soil containing ACM debris which will be managed as both Remediation Waste and as Asbestos Containing Waste Material (ACWM). Results of the subsurface exploration and sampling and testing programs have been provided to the Contractor. The Contractor is required to manage excavated soil within the limits of the Site in accordance with 310 CMR 40.0030, this RAM Plan, and the NTWP.

The extent of ACM debris commingled with the upper Organic Deposits will be delineated through visual inspection by a licensed Asbestos Inspector. Soil containing ACM debris will be excavated and directly loaded into trucks or containers lined with polyethylene as required by the NTWP. The soil will then be transported under a BOL and AWSR to approved disposal facilities.

Haley & Aldrich will periodically monitor excavated soils for visual and olfactory evidence of contamination (such as observed discoloration, texture, and odor). Activities involving possible contact with soil containing ACM debris will be overseen by a licensed asbestos abatement supervisor. In addition, a licensed Asbestos Inspector will periodically inspect soils from the RAM Site where soil containing ACM debris is being excavated. Soil containing ACM debris will be handled in accordance with a NTWP that is being submitted to the MassDEP BAW and will be approved prior to the management of soil containing ACM debris.

Soils that exhibit characteristics that are not consistent with the precharacterization classification may be reclassified based on the outcome of further analyses.

4.4 ADDITIONAL SITE ACTIVITIES

Other activities are planned to be conducted during the RAM, outside of the site preclearing and remedial soil excavation area. They include additional subsurface explorations for soil pre-characterization, groundwater sampling for a future temporary dewatering permit application, and a testing program for geopiles.

4.5 ENVIRONMENTAL MONITORING PLAN

Haley & Aldrich will provide part-time construction observation during Remediation Waste excavation activities. Monitoring of soil containing ACM debris will be conducted by Woodard & Curran or an authorized representative in accordance with the NTWP. Haley & Aldrich will monitor excavated soils for visual and olfactory evidence of contamination (such as observed discoloration, texture, and odor) that may be inconsistent with the precharacterization.

The Contractor is responsible for notifying workers involved with ongoing construction activities of the RAM Site-specific Health and Safety Plan (HASP) as described in the Health and Safety Specification for the project (Appendix E) and protocols for handling potentially impacted soils (e.g., criteria for donning appropriate personal protection equipment [PPE]). The Contractor will be responsible for monitoring conditions at the RAM Site with respect to worker health and safety in accordance with its HASP.

During the excavation of soil containing ACM debris, the Contractor will employ dust control measures (i.e., wetting of soils) to minimize the creation of airborne dust. Perimeter fiber air sampling will be conducted by a subcontractor provided by Woodard & Curran. As outlined in the NTWP, ambient air monitoring around the perimeter of the work area will be performed by Woodard & Curran on a continuous basis during any activities involving the disturbance of soil containing ACM debris. If the air monitoring results reach or exceed the Massachusetts Department of Labor Standard's clean air criteria of one-one hundredth fibers per cubic centimeter (0.010 f/cc) of sampled air, then intrusive work will be suspended, the Contractor will evaluate work methods, implement corrective actions, and notify MassDEP within two hours of knowledge.

Haley & Aldrich will observe the excavation for signs of visible dust or odors. Based on the soil quality data from the 2022 and 2023 soil precharacterization programs, the site-specific action level for dust is 150 micrograms per cubic meter ($\mu g/m^3$), which in our experience equates to visible dust. If visible dust is observed, the Contractor will employ standard dust control measures to limit the creation of airborne dust, such as watering-down the exposed ground surface or spreading hygroscopic salts where heavy equipment will be traveling, and dust is generated.

In addition, PM10 dust monitoring will be conducted during active disturbance of soil containing ACM debris with stationary units at the perimeter of the Site, or regular perimeter monitoring with a hand-held device. The acceptable limit for the project for fugitive dust concentration at the perimeter is a maximum 24-hour time-weighted average (TWA) of 150 $\mu g/m^3$ and a real-time two-hour average of 200 $\mu g/m^3$. This standard is based on particle concentrations measured as PM10, which includes particles with an aerodynamic diameter of 10 micrometers (µm) and less.

The Contractor is also responsible for applying odor control measures (such as the use of foam suppressants) as necessary to control odors, which may be caused by the presence of Organic soils or other material in the subsurface.

Personnel handling or contacting soils containing ACM debris will, at minimum, wear disposable protective suits, including booties and head cover, and half-face, negative-pressure respirators equipped with P100 filters.

4.6 GREENER TECHNOLOGIES

The RAM Plan has considered Best Management Practices (BMPs) recommended for Greener Cleanups in accordance with MassDEP Policy WSC #14-150. A list of potential BMPs to be considered during RAM activities is included in Appendix F. These measures will be implemented during the RAM to the extent feasible.

4.7 UST REMOVAL AND CHARACTERIZATION AND MANAGEMENT OF PETROLEUM-CONTAMINATED SOIL, IF NECESSARY

Although not anticipated, if underground storage tanks (USTs) are encountered during RAM Activities, the assessment and removal of these USTs and the impacted soil will be conducted in accordance with MassDEP, 310 CMR 80.00: UST Systems regulations and coordinated with the City of Boston Fire Department. Impacted soil will be managed based on the outcome of additional sampling and testing.

4.8 CONTINGENCIES

If potentially hazardous conditions are evident, work in the area will be suspended, and the area will be secured to protect against a health risk or release into the environment. These conditions include but are not limited to, strong chemical odors, flooding, personal injury, exposure to toxic chemicals, and/or encountering unexpected hazardous materials, uncontainerized wastes, buried containers, and drums.

In the event that additional USTs or other buried containers, drums, or tanks are encountered, or if a release of oil or potentially hazardous materials has occurred, the required notification will be made to MassDEP in accordance with 310 CMR 40.0300 and to the Boston Fire Department, as applicable.

4.9 FEDERAL, STATE, AND LOCAL PERMITS AND REQUIREMENTS

This RAM Plan involves the management of soil containing ACM debris. A NTWP is being submitted to BAW concurrently with this submittal. Management of soil containing ACM debris will not occur until the NTWP has been approved by BAW.

4.10 RAM IMPLEMENTATION SCHEDULE

RAM activities are expected to be completed by September 2024. RAM Activities will be considered complete when the objectives of the RAM Plan have been met, and when active and ongoing remedial actions related to the RAM have been terminated (310 CMR 40.0446(2)).

RAM Activities will be documented in a RAM Status Report (if required) and a RAM Completion Report, which will be submitted in accordance with the schedule indicated in 310 CMR 40.0440.

4.11 SEAL AND SIGNATURE OF LICENSED SITE PROFESSIONAL

Cole E. Worthy is the LSP for the implementation of the RAM. The LSP seal and signature are provided on the RAM Plan Transmittal Form BWSC106 which has been submitted electronically on eDEP, an unsigned copy of which is included in Appendix A.

This document contains material facts, data, and other information that support the LSP Opinion that, to the best of the LSP's knowledge, information, and belief, the response actions that are the subject of this submittal: (i) have been developed in accordance with the applicable provisions of M.G.L.c.21E and 310 CMR 40.0000; (ii) are appropriate and reasonable to accomplish the purposes of such response actions as set forth in the applicable provisions of M.G.L.c.21E and 310 CMR 40.0000; and (iii) comply with the identified provisions of all orders, permits, and approvals identified in this submittal.

4.12 FINANCIAL ASSURANCE

The proposed RAM involves excavation of more than 1,500 cu yd of soil with oil and hazardous material concentrations in excess of applicable RCS-1 Reportable Concentrations. Therefore, in accordance with Section 40.0442(5) of the MCP, acknowledgment of the financial impacts and demonstration of sufficient financial reserves is required. Northeastern University has been informed of the costs to complete the work described in the RAM. Monies to adequately cover the costs associated with the implementation of the RAM are available. A statement providing the certification of knowledge and financial resources executed on behalf of Northeastern University is included in Appendix A.

5. References

1. Haley & Aldrich, Inc. memorandum titled, “Soil Precharacterization Memo, Multi-Purpose Arena, Northeastern University, Boston, Massachusetts,” dated 13 April 2023.

2. Haley & Aldrich, Inc., report titled “MCP Phase I Initial Site Investigation, Tier II Classification, and Conceptual Phase II Scope of Work, Northeastern University- Matthews Arena, Boston, Massachusetts, Release Tracking Number (RTN) 3-37948”, dated 7 February 2024.

3. Massachusetts Department of Environmental Protection UST Removal Regulations, 310 CMR 80.00.

4. Massachusetts Department of Environmental Protection, “Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil,” dated 23 May 2002.

5. Massachusetts Department of Environmental Protection, “Conducting Feasibility Evaluations Under the MCP, DEP Final Policy #WSC-04-160,” dated 16 July 2004.

6. Massachusetts Department of Environmental Protection, “Similar Soils Provisional Guidance, #WSC-13-500,” dated 20 October 2013.

7. Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup, “The Massachusetts Contingency Plan; 310 CMR 40.0000,” dated 23 May 2014, and updates.

8. Massachusetts Department of Environmental Protection, “Interim Policy on the Re-Use of Soil for Large Reclamation Projects, Policy #COMM-15-01,” dated 28 August 2015.

https://haleyaldrich.sharepoint.com/sites/NortheasternUniversity/Shared Documents/134206.New Arena/012 - New Arena-After SD/Deliverables/2024-03-MCP-RAM Summer 2024/Text/2024-0419-HAI-NU Arena RAM Plan_F.docx

TABLES

TABLE I
SUMMARY OF DEBRIS SAMPLES ANALYZED FOR POTENTIAL ASBESTOS CONTENT AND RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 134206-010

Test Pit Designation	Depth of Suspect Debris Sample (ft bgs)	Sample Name on Chain of Custody	Material Description	Sample PLM Results
HA23-TP1	3	HA24-TP1_3	Firebrick like material	ND
HA23-TP2	0-5	HA24-TP2_0-5A	Black Fibrous Material	ND
	0-5	HA24-TP2_0-5B	Black Fibrous Material	45% Asbestos Detected
	4	HA24-TP2_4	Orange tile like material	ND
HA23-TP3	0-5	HA24-TP3_0-5A	Orange tile like material	ND
	0-5	HA24-TP3_5-10	Moasic coating material with black backing	ND
	5-10	HA24-TP3_0-5B	Coating material	ND
HA23-TP4	0-5	HA24-TP4_0-5A	Black Fibrous Material	ND
	0-5	HA24-TP4_0-5B	Tile	ND
	5-10	HA24-TP4_5-10	Black Fibrous Material	ND
HA23-TP5	0-5	HA24-TP5_0-5	Black Fibrous Material	ND
	5-10	HA24-TP5_5-10A	Black Fibrous Material	ND
	5-10	HA24-TP5_5-10B	Black Fibrous Material	ND
	5-10	HA24-TP5_5-10C	Black Fibrous Material with green & white paper	ND
HA23-TP7	0-5	HA24-TP7_0-5A	Black Layered Material	ND
	0-5	HA24-TP7_0-5B	Tile with Black coating on side.	ND
HA23-TP8	8-10	HA24-TP8_8-10	Tile with Black coating on side.	ND
HA23-TP11	2	1	Black Fabric #1	75% Asbestos Detected
	2	2	Black Fabric #2	85% Asbestos Detected
HA23-TP12	3	3	Black Fibrous Material	ND
	4	4	Orange Coating Material	ND
HA22-TP3	1	1	Black tarlike roofing material	ND
	2.5	2	Black fibrous material	ND
	7	3	Brown fibrous gasket	ND
	7	4	Black tarlike roofing material	2% asbestos detected
	7	5	Black layered material	ND
	9	6	Black tarlike roofing material	ND
HA22-TP4	5	7	Black tarlike roofing material	ND
	6	8	Black tarlike roofing material	ND
	7	9	Black fibrous material	ND
	9	10	Black fibrous material	15% asbestos detected
HA22-TP5	2.5	11	White insulation	ND
	3	12	Tan insulation from boiler	ND
	4.5	13	Black fibrous material	ND
	5	14	Black fibrous material	ND
	7	15	Black fibrous material	2% asbestos detected
	8	16	White fibrous material	ND

ABBREVIATIONS AND NOTES:
bgs: below ground surface
ft: feet
PLM: Polarized Light Microscopy analysis
NA: Sample not analyzed for asbestos by PLM
***ND** : No asbestos was detected in the sample during PLM analysis*
- Grayed samples are located outside the limits of the RAM.

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA24-A1		HA22-B4		HA22-TP4		HA24-A3		
Sample Name	MCP		HA24-A1_0-5	HA24-A1_5-10	HA22-B4_21-26.0	HA22-B4_29.0-31.0	HA22-TP4_0.0-5.0	HA22-TP4_5.0-11.0	HA24-A3_0-5	HA24-A3_5-10	HA24-A3_10-15
Sample Date	Reportable		12/27/2023	12/27/2023	07/14/2022	07/14/2022	07/28/2022	07/28/2022	12/26/2023	12/26/2023	12/26/2023
	Concentration	TCLP		L2376243-05			L2243206-01	L2243206-02		L2376095-02	
Lab Sample ID	RCS-1		L2376243-04	L2400001-02	L2237738-02	L2237738-03	L2244219-01	L2244219-02	L2376095-01	L2400003-01	L2376095-03
Sample Depth (bgs)	2014		0 - 5 (ft)	5 - 10 (ft)	21 - 26 (ft)	29 - 31 (ft)	0 - 5 (ft)	5 - 11 (ft)	0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)
Soil Description			FILL	FILL	ORGANIC	CLAY	FILL	FILL	FILL	FILL	FILL
Volatile Organic Compounds (mg/kg)											
2-Butanone (Methyl Ethyl Ketone)	4	NA	ND (0.0092)	ND (0.01)	ND (0.021)	ND (0.012)	ND (0.016)	ND (0.014)	ND (0.0061)	ND (0.0096)	ND (0.0068)
Acetone	6	NA	ND (0.023)	ND (0.026)	0.054	ND (0.029)	ND (0.04)	ND (0.034)	ND (0.015)	ND (0.024)	ND (0.017)
Benzene	2	NA	ND (0.00046)	ND (0.00051)	ND (0.001)	ND (0.00059)	ND (0.0008)	ND (0.00068)	ND (0.0003)	ND (0.00048)	ND (0.00034)
Cymene (p-Isopropyltoluene)	100	NA	ND (0.00092)	ND (0.001)	0.01	ND (0.0012)	ND (0.0016)	ND (0.0014)	ND (0.00061)	ND (0.00096)	ND (0.00068)
Ethylbenzene	40	NA	ND (0.00092)	ND (0.001)	ND (0.0021)	ND (0.0012)	ND (0.0016)	ND (0.0014)	ND (0.00061)	ND (0.00096)	ND (0.00068)
Naphthalene	4	NA	ND (0.0037)	0.008	ND (0.0084)	ND (0.0047)	ND (0.0064)	ND (0.0054)	ND (0.0024)	ND (0.0038)	ND (0.0027)
Styrene	3	NA	ND (0.00092)	ND (0.001)	ND (0.0021)	ND (0.0012)	ND (0.0016)	ND (0.0014)	ND (0.00061)	ND (0.00096)	ND (0.00068)
Tetrachloroethene	1	NA	ND (0.00046)	ND (0.00051)	ND (0.001)	ND (0.00059)	ND (0.0008)	ND (0.00068)	ND (0.0003)	ND (0.00048)	ND (0.00034)
Toluene	30	NA	ND (0.00092)	ND (0.001)	ND (0.0021)	ND (0.0012)	ND (0.0016)	ND (0.0014)	ND (0.00061)	ND (0.00096)	ND (0.00068)
Xylene (Total)	100	NA	ND (0.00092)	0.0076	ND (0.0021)	ND (0.0012)	ND (0.0016)	ND (0.0014)	ND (0.00061)	ND (0.00096)	ND (0.00068)
SUM of Volatile Organic Compounds	NA	NA	ND	0.0156	0.064	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (mg/kg)											
2-Methylnaphthalene	0.7	NA	ND (0.36)	ND (0.078)	ND (0.11)	ND (0.084)	**ND (1.6)**	ND (0.39)	ND (0.37)	0.15	ND (0.075)
Acenaphthene	4	NA	ND (0.7)	0.22	ND (0.22)	ND (0.16)	3.6	ND (0.74)	ND (0.7)	0.35	ND (0.14)
Acenaphthylene	1	NA	ND (0.7)	ND (0.15)	ND (0.22)	ND (0.16)	**ND (3)**	ND (0.74)	ND (0.7)	ND (0.15)	ND (0.14)
Anthracene	1000	NA	ND (0.52)	0.58	ND (0.16)	ND (0.12)	9	1.2	ND (0.52)	1	0.12
Benzo(a)anthracene	7	NA	0.98	1.6	ND (0.16)	ND (0.12)	**23**	3.8	0.78	2.4	0.36
Benzo(a)pyrene	2	NA	1.2	1.6	ND (0.22)	ND (0.16)	**24**	**4**	1	**2.3**	0.35
Benzo(b)fluoranthene	7	NA	1.6	1.9	ND (0.16)	ND (0.12)	**29**	5	1.5	2.9	0.42
Benzo(g,h,i)perylene	1000	NA	0.74	0.75	ND (0.22)	ND (0.16)	15	2.6	ND (0.7)	1	0.18
Benzo(k)fluoranthene	70	NA	ND (0.52)	0.6	ND (0.16)	ND (0.12)	8.8	1.7	ND (0.52)	0.66	0.13
Biphenyl	0.05	NA	**ND (0.17)**	ND (0.037)	**ND (0.055)**	ND (0.04)	**ND (0.74)**	**ND (0.18)**	**ND (0.17)**	ND (0.037)	ND (0.036)
bis(2-Ethylhexyl)phthalate	90	NA	ND (0.87)	ND (0.19)	ND (0.27)	ND (0.2)	ND (3.7)	ND (0.92)	ND (0.87)	ND (0.19)	ND (0.18)
Chrysene	70	NA	1	1.5	ND (0.16)	ND (0.12)	22	3.8	1	2.3	0.34
Dibenz(a,h)anthracene	0.7	NA	ND (0.36)	0.16	ND (0.11)	ND (0.084)	**2.8**	0.5	ND (0.37)	0.21	ND (0.075)
Dibenzofuran	100	NA	ND (0.87)	ND (0.19)	ND (0.27)	ND (0.2)	ND (3.7)	ND (0.92)	ND (0.87)	0.24	ND (0.18)
Fluoranthene	1000	NA	1.8	3.7	ND (0.16)	ND (0.12)	60	9.4	2.3	5.3	0.79
Fluorene	1000	NA	ND (0.87)	0.2	ND (0.27)	ND (0.2)	4.1	ND (0.92)	ND (0.87)	0.41	ND (0.18)
Indeno(1,2,3-cd)pyrene	7	NA	ND (0.7)	0.7	ND (0.22)	ND (0.16)	**17**	3	ND (0.7)	0.93	0.17
Naphthalene	4	NA	ND (0.87)	ND (0.19)	ND (0.27)	ND (0.2)	ND (3.7)	ND (0.92)	ND (0.87)	ND (0.19)	ND (0.18)
Phenanthrene	10	NA	0.76	2.6	ND (0.16)	ND (0.12)	**39**	5.5	0.95	3.9	0.48
Pyrene	1000	NA	1.6	3.1	ND (0.16)	ND (0.12)	51	7.9	1.9	4.4	0.66
SUM of Semi-Volatile Organic Compounds	NA	NA	9.68	19.21	ND	ND	308.3	48.4	9.43	28.45	4
Total Petroleum Hydrocarbons (mg/kg)											
Petroleum hydrocarbons	1000	NA	385	257	ND (53.2)	64.7	950	1000	501	207	77.4
Inorganic Compounds (mg/kg)											
Antimony	20	NA	ND (2.11)	ND (2.21)	ND (3.28)	ND (2.38)	ND (2.16)	ND (2.1)	ND (2.05)	ND (2.14)	ND (2.15)
Arsenic	20	NA	5.92	5.13	5.52	7.88	8.01	3.2	9.77	9.07	2.67
Barium	1000	NA	29.9	134	34.8	56.2	94.6	69	39.6	81	25.1
Beryllium	90	NA	0.424	0.361	0.537	0.562	0.297	0.259	0.414	0.422	0.225
Cadmium	70	NA	ND (0.423)	0.865	0.832	0.877	1.34	ND (0.42)	ND (0.41)	ND (0.428)	ND (0.43)
Chromium	100	NA	14.7	13.1	25.3	27.4	9.49	7.62	23.2	22.5	8.47
Lead	200	NA	50.9	**1470**	5.77	6.14	**218**	146	10.1	**442**	69.4
Mercury	20	NA	ND (0.076)	0.293	ND (0.12)	ND (0.094)	0.782	0.198	ND (0.084)	0.126	ND (0.082)
Nickel	600	NA	9.95	8.91	14.5	17.8	10.2	8.22	15.8	13.1	6.1
Selenium	400	NA	ND (2.11)	ND (2.21)	ND (3.28)	ND (2.38)	ND (2.16)	ND (2.1)	ND (2.05)	ND (2.14)	ND (2.15)
Silver	100	NA	ND (0.423)	ND (0.442)	ND (0.655)	ND (0.476)	ND (0.432)	ND (0.42)	ND (0.41)	ND (0.428)	ND (0.43)
Thallium	8	NA	ND (2.11)	ND (2.21)	ND (3.28)	ND (2.38)	ND (2.16)	ND (2.1)	ND (2.05)	ND (2.14)	ND (2.15)
Vanadium	400	NA	23.4	18	31.5	35.2	270	128	27.2	24.4	15.9
Zinc	1000	NA	61.3	269	35	44.5	634	97.8	39.6	87.4	25.1
TCLP Inorganic Compounds (mg/L)											
Lead	NA	5	-	1.05	-	-	ND (0.5)	ND (0.5)	-	0.636	-

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA24-A1		HA22-B4		HA22-TP4		HA24-A3		
Sample Name	MCP		HA24-A1_0-5	HA24-A1_5-10	HA22-B4_21-26.0	HA22-B4_29.0-31.0	HA22-TP4_0.0-5.0	HA22-TP4_5.0-11.0	HA24-A3_0-5	HA24-A3_5-10	HA24-A3_10-15
Sample Date	Reportable		12/27/2023	12/27/2023	07/14/2022	07/14/2022	07/28/2022	07/28/2022	12/26/2023	12/26/2023	12/26/2023
	Concentration	TCLP		L2376243-05			L2243206-01	L2243206-02		L2376095-02	
Lab Sample ID	RCS-1		L2376243-04	L2400001-02	L2237738-02	L2237738-03	L2244219-01	L2244219-02	L2376095-01	L2400003-01	L2376095-03
Sample Depth (bgs)	2014		0 - 5 (ft)	5 - 10 (ft)	21 - 26 (ft)	29 - 31 (ft)	0 - 5 (ft)	5 - 11 (ft)	0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)
Soil Description			FILL	FILL	ORGANIC	CLAY	FILL	FILL	FILL	FILL	FILL
PCBs (mg/kg)											
Aroclor-1016 (PCB-1016)	1	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1221 (PCB-1221)	1	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1232 (PCB-1232)	1	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1242 (PCB-1242)	1	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1248 (PCB-1248)	1	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1254 (PCB-1254)	1	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1260 (PCB-1260)	1	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1262 (PCB-1262)	NA	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Aroclor-1268 (PCB-1268)	NA	NA	ND (0.0505)	ND (0.0544)	ND (0.0538)	ND (0.0392)	ND (0.0375)	ND (0.0359)	ND (0.0514)	ND (0.0528)	ND (0.0527)
Other											
Total Solids (%)	NA	NA	94.1	87.3	59.7	81.8	88.4	90.3	93.3	88.2	91
Reactive Cyanide (mg/kg)	NA	NA	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)
Reactive Sulfide (mg/kg)	NA	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	NA	9.9	8.6	7.8	8	8.6	8.9	7.88	8.44	8.57
Conductivity (umhos/cm)	NA	NA	140	290	1700	740	220	170	57	79	100

ABBREVIATIONS AND NOTES:

mg/kg: milligram per kilogram
mg/L: milligram per liter
umhos/cm: micromhos per centimeter
-: Not Analyzed
bgs: below ground surface
ft: feet
MCP: 310 CMR 40.0000 Massachusetts Contingency Plan effective 25 April 2014; revisions 23 May 2014.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NI: Not Ignitable

- Analytes detected in Volatile and Semi-Volatile Organics for at least one sample are reported herein.
- For a complete list of analytes see the laboratory data sheets.
- For test methods used, see the laboratory data sheets.
*- Bold values indicate an exceedance of the **RCS-1** or **TCLP** criteria.*

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA24-A4		HA22-TP3		A4-TCLP-E1	A4-TCLP-E2	A4-TCLP-N1	A4-TCLP-N2	A4-TCLP-S1
Sample Name	MCP		HA24-A4_0-5	HA24-A4_5-10	HA22-TP3_0.0-5.0	HA22-TP3_5.0-10.0	A4-TCLP-E1	A4-TCLP-E2	A4-TCLP-N1_0-5	A4-TCLP-N2_0-5	A4-TCLP-S1
Sample Date	Reportable		12/27/2023	12/27/2023	07/29/2022	07/29/2022	12/27/2023	12/27/2023	12/26/2023	12/26/2023	12/27/2023
	Concentration	TCLP		L2376303-02	L2240888-01	L2240888-02					
Lab Sample ID	RCS-1		L2376303-01	L2400002-01	L2244217-01	L2244217-02	L2376304-03	L2376304-04	L2376099-01	L2376099-02	L2376304-02
Sample Depth (bgs)	2014		0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	0 - 5 (ft)	0 - 5 (ft)	0 - 5 (ft)	0 - 5 (ft)
Soil Description			FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
Volatile Organic Compounds (mg/kg)											
2-Butanone (Methyl Ethyl Ketone)	4	NA	ND (0.0088)	ND (0.0082)	ND (0.012)	ND (0.014)	-	-	-	-	-
Acetone	6	NA	ND (0.022)	ND (0.02)	ND (0.031)	ND (0.035)	-	-	-	-	-
Benzene	2	NA	ND (0.00044)	ND (0.00041)	ND (0.00063)	ND (0.0007)	-	-	-	-	-
Cymene (p-Isopropyltoluene)	100	NA	ND (0.00088)	ND (0.00082)	ND (0.0012)	ND (0.0014)	-	-	-	-	-
Ethylbenzene	40	NA	ND (0.00088)	ND (0.00082)	ND (0.0012)	ND (0.0014)	-	-	-	-	-
Naphthalene	4	NA	ND (0.0035)	ND (0.0033)	ND (0.005)	ND (0.0056)	-	-	-	-	-
Styrene	3	NA	ND (0.00088)	ND (0.00082)	ND (0.0012)	ND (0.0014)	-	-	-	-	-
Tetrachloroethene	1	NA	ND (0.00044)	ND (0.00041)	ND (0.00063)	ND (0.0007)	-	-	-	-	-
Toluene	30	NA	ND (0.00088)	ND (0.00082)	ND (0.0012)	ND (0.0014)	-	-	-	-	-
Xylene (Total)	100	NA	ND (0.00088)	ND (0.00082)	ND (0.0012)	ND (0.0014)	-	-	-	-	-
SUM of Volatile Organic Compounds	NA	NA	ND	ND	ND	ND	-	-	-	-	-
Semi-Volatile Organic Compounds (mg/kg)											
2-Methylnaphthalene	0.7	NA	ND (0.079)	ND (0.075)	0.081	0.22	-	-	-	-	-
Acenaphthene	4	NA	ND (0.15)	ND (0.14)	0.39	0.72	-	-	-	-	-
Acenaphthylene	1	NA	ND (0.15)	ND (0.14)	ND (0.15)	0.17	-	-	-	-	-
Anthracene	1000	NA	0.19	0.37	1	1.8	-	-	-	-	-
Benzo(a)anthracene	7	NA	0.76	0.99	3.4	3.7	-	-	-	-	-
Benzo(a)pyrene	2	NA	1	0.95	**3.2**	**3.1**	-	-	-	-	-
Benzo(b)fluoranthene	7	NA	1.5	1.1	4.7	3.9	-	-	-	-	-
Benzo(g,h,i)perylene	1000	NA	0.87	0.56	2	1.8	-	-	-	-	-
Benzo(k)fluoranthene	70	NA	0.38	0.4	1.3	1.2	-	-	-	-	-
Biphenyl	0.05	NA	ND (0.038)	ND (0.036)	ND (0.037)	**0.053**	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	90	NA	ND (0.19)	0.19	ND (0.18)	ND (0.19)	-	-	-	-	-
Chrysene	70	NA	0.9	0.91	3.9	3.5	-	-	-	-	-
Dibenz(a,h)anthracene	0.7	NA	0.18	0.12	0.5	0.5	-	-	-	-	-
Dibenzofuran	100	NA	ND (0.19)	ND (0.18)	0.2	0.45	-	-	-	-	-
Fluoranthene	1000	NA	1.5	2.2	6	6.4	-	-	-	-	-
Fluorene	1000	NA	ND (0.19)	ND (0.18)	0.42	0.84	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	7	NA	0.82	0.5	2.4	2.1	-	-	-	-	-
Naphthalene	4	NA	ND (0.19)	ND (0.18)	ND (0.18)	0.26	-	-	-	-	-
Phenanthrene	10	NA	0.65	1.4	4.6	5.8	-	-	-	-	-
Pyrene	1000	NA	1.4	1.9	5	5.4	-	-	-	-	-
SUM of Semi-Volatile Organic Compounds	NA	NA	10.15	11.59	39.091	41.913	-	-	-	-	-
Total Petroleum Hydrocarbons (mg/kg)											
Petroleum hydrocarbons	1000	NA	386	157	226	350	-	-	-	-	-
Inorganic Compounds (mg/kg)											
Antimony	20	NA	ND (2.27)	ND (2.17)	ND (2.09)	ND (2.25)	-	-	-	-	-
Arsenic	20	NA	5.26	8.44	9	4.7	-	-	-	-	-
Barium	1000	NA	36.9	84.4	249	87.2	-	-	-	-	-
Beryllium	90	NA	0.511	0.36	0.29	0.299	-	-	-	-	-
Cadmium	70	NA	ND (0.453)	0.517	1.38	ND (0.45)	-	-	-	-	-
Chromium	100	NA	11.9	9.63	21.1	10.9	-	-	-	-	-
Lead	200	NA	40.2	**213**	**1010**	194	37.2	29.9	84.4	**847**	12.9
Mercury	20	NA	ND (0.083)	ND (0.085)	0.194	0.221	-	-	-	-	-
Nickel	600	NA	9.23	9	23.6	15.8	-	-	-	-	-
Selenium	400	NA	ND (2.27)	ND (2.17)	ND (2.09)	ND (2.25)	-	-	-	-	-
Silver	100	NA	ND (0.453)	ND (0.434)	ND (0.418)	ND (0.45)	-	-	-	-	-
Thallium	8	NA	ND (2.27)	ND (2.17)	ND (2.09)	ND (2.25)	-	-	-	-	-
Vanadium	400	NA	20.3	15.5	92.6	100	-	-	-	-	-
Zinc	1000	NA	42.8	315	403	155	-	-	-	-	-
TCLP Inorganic Compounds (mg/L)											
Lead	NA	5	-	2.71	**8.49**	ND (0.5)	ND (0.5)	ND (0.5)	3.64	3.33	ND (0.5)

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA24-A4		HA22-TP3		A4-TCLP-E1	A4-TCLP-E2	A4-TCLP-N1	A4-TCLP-N2	A4-TCLP-S1
Sample Name	MCP		HA24-A4_0-5	HA24-A4_5-10	HA22-TP3_0.0-5.0	HA22-TP3_5.0-10.0	A4-TCLP-E1	A4-TCLP-E2	A4-TCLP-N1_0-5	A4-TCLP-N2_0-5	A4-TCLP-S1
Sample Date	Reportable		12/27/2023	12/27/2023	07/29/2022	07/29/2022	12/27/2023	12/27/2023	12/26/2023	12/26/2023	12/27/2023
	Concentration	TCLP		L2376303-02	L2240888-01	L2240888-02					
Lab Sample ID	RCS-1		L2376303-01	L2400002-01	L2244217-01	L2244217-02	L2376304-03	L2376304-04	L2376099-01	L2376099-02	L2376304-02
Sample Depth (bgs)	2014		0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	0 - 5 (ft)	0 - 5 (ft)	0 - 5 (ft)	0 - 5 (ft)
Soil Description			FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
PCBs (mg/kg)											
Aroclor-1016 (PCB-1016)	1	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1221 (PCB-1221)	1	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1232 (PCB-1232)	1	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1242 (PCB-1242)	1	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1248 (PCB-1248)	1	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1254 (PCB-1254)	1	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1260 (PCB-1260)	1	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1262 (PCB-1262)	NA	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Aroclor-1268 (PCB-1268)	NA	NA	ND (0.056)	ND (0.0545)	ND (0.0965)	ND (0.0366)	-	-	-	-	-
Other											
Total Solids (%)	NA	NA	87.8	90.6	90.6	87.5	94.2	93.2	90.9	90.4	83.6
Reactive Cyanide (mg/kg)	NA	NA	ND (130)	ND (130)	ND (130)	ND (130)	-	-	-	-	-
Reactive Sulfide (mg/kg)	NA	NA	ND (250)	ND (250)	ND (250)	ND (250)	-	-	-	-	-
Ignitability (Flashpoint)	NA	NA	NI	NI	NI	NI	-	-	-	-	-
pH (lab) (pH units)	NA	NA	9.27	8.67	8.4	8.2	-	-	-	-	-
Conductivity (umhos/cm)	NA	NA	280	270	280	280	-	-	-	-	-

ABBREVIATIONS AND NOTES:

mg/kg: milligram per kilogram
mg/L: milligram per liter
umhos/cm: micromhos per centimeter
-: Not Analyzed
bgs: below ground surface
ft: feet
MCP: 310 CMR 40.0000 Massachusetts Contingency Plan effective 25 April 2014; revisions 23 May 2014.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NI: Not Ignitable

- Analytes detected in Volatile and Semi-Volatile Organics for at least one sample are reported herein.
- For a complete list of analytes see the laboratory data sheets.
- For test methods used, see the laboratory data sheets.
*- Bold values indicate an exceedance of the **RCS-1** or **TCLP** criteria.*

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			A4-TCLP-W1	HA22-TP5		HA24-TP2		HA24-B3	HA24-B3		HA24-B4
Sample Name	MCP		A4-TCLP-W1	HA22-TP5_0.0-5.0	HA22-TP5_5.0-10.0	HA24-TP2_0-5	HA24-TP2_5-10	HA24-B3_0-5	HA24-B3_5-10	HA24-B3_10-15	HA24-B4_0-5
Sample Date	Reportable		12/27/2023	07/28/2022	07/28/2022	12/26/2023	12/26/2023	12/27/2023	12/27/2023	12/27/2023	12/26/2023
	Concentration	TCLP		L2243206-03	L2243206-04	L2376095-07	L2376095-08		L2376243-02		
Lab Sample ID	RCS-1		L2376304-01	L2244219-03	L2244219-04	L2400003-03	L2400003-04	L2376243-01	L2400001-01	L2376243-03	L2376095-04
Sample Depth (bgs)	2014		0 - 5 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)	0 - 5 (ft)
Soil Description			FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
Volatile Organic Compounds (mg/kg)											
2-Butanone (Methyl Ethyl Ketone)	4	NA	-	ND (0.014)	ND (0.012)	ND (0.017)	ND (0.011)	ND (0.0089)	ND (0.0092)	ND (0.0077)	ND (0.0071)
Acetone	6	NA	-	ND (0.036)	ND (0.031)	ND (0.042)	ND (0.028)	ND (0.022)	ND (0.023)	ND (0.019)	ND (0.018)
Benzene	2	NA	-	ND (0.00073)	ND (0.00062)	ND (0.00083)	ND (0.00056)	ND (0.00044)	ND (0.00046)	ND (0.00039)	ND (0.00036)
Cymene (p-Isopropyltoluene)	100	NA	-	ND (0.0014)	ND (0.0012)	ND (0.0017)	ND (0.0011)	ND (0.00089)	ND (0.00092)	ND (0.00077)	ND (0.00071)
Ethylbenzene	40	NA	-	ND (0.0014)	ND (0.0012)	ND (0.0017)	ND (0.0011)	ND (0.00089)	ND (0.00092)	ND (0.00077)	ND (0.00071)
Naphthalene	4	NA	-	ND (0.0058)	ND (0.005)	ND (0.0066)	ND (0.0044)	ND (0.0036)	ND (0.0037)	ND (0.0031)	0.0059
Styrene	3	NA	-	ND (0.0014)	ND (0.0012)	ND (0.0017)	ND (0.0011)	ND (0.00089)	ND (0.00092)	ND (0.00077)	ND (0.00071)
Tetrachloroethene	1	NA	-	ND (0.00073)	ND (0.00062)	ND (0.00083)	0.00097	ND (0.00044)	0.00051	ND (0.00039)	ND (0.00036)
Toluene	30	NA	-	ND (0.0014)	ND (0.0012)	ND (0.0017)	ND (0.0011)	ND (0.00089)	ND (0.00092)	ND (0.00077)	ND (0.00071)
Xylene (Total)	100	NA	-	ND (0.0014)	ND (0.0012)	ND (0.0017)	ND (0.0011)	ND (0.00089)	ND (0.00092)	ND (0.00077)	ND (0.00071)
SUM of Volatile Organic Compounds	NA	NA	-	ND	ND	ND	0.00097	ND	0.00051	ND	0.0059
Semi-Volatile Organic Compounds (mg/kg)											
2-Methylnaphthalene	0.7	NA	-	**ND (0.74)**	**ND (0.74)**	0.69	ND (0.077)	ND (0.079)	ND (0.077)	ND (0.072)	ND (0.35)
Acenaphthene	4	NA	-	ND (1.4)	1.5	3.4	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.68)
Acenaphthylene	1	NA	-	**ND (1.4)**	**ND (1.4)**	**1.7**	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.68)
Anthracene	1000	NA	-	3.6	3.7	7.5	ND (0.11)	ND (0.11)	0.15	ND (0.1)	ND (0.51)
Benzo(a)anthracene	7	NA	-	**14**	**15**	**24**	ND (0.11)	0.5	0.58	ND (0.1)	ND (0.51)
Benzo(a)pyrene	2	NA	-	**15**	**16**	**24**	ND (0.15)	0.53	0.54	ND (0.14)	ND (0.68)
Benzo(b)fluoranthene	7	NA	-	**19**	**17**	**31**	ND (0.11)	0.62	0.61	0.1	ND (0.51)
Benzo(g,h,i)perylene	1000	NA	-	9.8	8.7	15	ND (0.15)	0.33	0.32	ND (0.14)	1.7
Benzo(k)fluoranthene	70	NA	-	6.6	6.5	8.9	ND (0.11)	0.21	0.16	ND (0.1)	ND (0.51)
Biphenyl	0.05	NA	-	**ND (0.35)**	**ND (0.36)**	**0.22**	ND (0.037)	ND (0.038)	ND (0.037)	ND (0.034)	**ND (0.17)**
bis(2-Ethylhexyl)phthalate	90	NA	-	ND (1.8)	ND (1.8)	ND (0.96)	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.84)
Chrysene	70	NA	-	15	14	22	ND (0.11)	0.47	0.51	ND (0.1)	ND (0.51)
Dibenz(a,h)anthracene	0.7	NA	-	**2**	**1.9**	**3.3**	ND (0.077)	ND (0.079)	ND (0.077)	ND (0.072)	ND (0.35)
Dibenzofuran	100	NA	-	ND (1.8)	ND (1.8)	1.7	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.84)
Fluoranthene	1000	NA	-	36	29	55	ND (0.11)	0.81	1.1	0.18	0.55
Fluorene	1000	NA	-	ND (1.8)	ND (1.8)	2.6	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.84)
Indeno(1,2,3-cd)pyrene	7	NA	-	**11**	**10**	**15**	ND (0.15)	0.3	0.29	ND (0.14)	0.84
Naphthalene	4	NA	-	ND (1.8)	ND (1.8)	1.2	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.84)
Phenanthrene	10	NA	-	**19**	**16**	**32**	ND (0.11)	0.24	0.49	0.14	ND (0.51)
Pyrene	1000	NA	-	31	27	38	ND (0.11)	0.81	0.98	0.16	ND (0.51)
SUM of Semi-Volatile Organic Compounds	NA	NA	-	182	166.3	287.21	ND	4.82	5.73	0.58	3.09
Total Petroleum Hydrocarbons (mg/kg)											
Petroleum hydrocarbons	1000	NA	-	**1240**	471	996	73.6	273	168	ND (33.2)	ND (33.5)
Inorganic Compounds (mg/kg)											
Antimony	20	NA	-	ND (2.13)	ND (2.05)	4.08	ND (2.17)	ND (2.26)	ND (2.17)	ND (2.06)	ND (2.02)
Arsenic	20	NA	-	5.32	4.33	**47.6**	7.56	9.06	5.08	4.54	4.24
Barium	1000	NA	-	70	56.9	365	107	42.7	149	25.8	11.1
Beryllium	90	NA	-	0.257	0.217	0.672	0.279	0.765	0.472	0.358	0.414
Cadmium	70	NA	-	ND (0.426)	0.67	2.05	0.468	0.537	0.515	0.789	ND (0.403)
Chromium	100	NA	-	7.63	9.98	22.2	10.3	27	18.9	11.7	5.82
Lead	200	NA	90.2	**262**	**224**	**14900**	**254**	22.3	**260**	57	13
Mercury	20	NA	-	0.211	0.247	0.739	0.424	ND (0.086)	ND (0.084)	0.13	ND (0.083)
Nickel	600	NA	-	7.53	8.09	71.7	11.5	23	10.1	8.95	5.07
Selenium	400	NA	-	ND (2.13)	ND (2.05)	ND (2.24)	ND (2.17)	ND (2.26)	ND (2.17)	ND (2.06)	ND (2.02)
Silver	100	NA	-	ND (0.426)	ND (0.411)	1.05	ND (0.435)	ND (0.452)	ND (0.435)	ND (0.412)	ND (0.403)
Thallium	8	NA	-	ND (2.13)	ND (2.05)	ND (2.24)	ND (2.17)	ND (2.26)	ND (2.17)	ND (2.06)	ND (2.02)
Vanadium	400	NA	-	15	13.7	230	19.3	31.4	16.7	16.1	13.7
Zinc	1000	NA	-	162	422	561	279	69.6	146	80	35.2
TCLP Inorganic Compounds (mg/L)											
Lead	NA	5	ND (0.5)	ND (0.5)	0.855	ND (0.5)	ND (0.5)	-	ND (0.5)	-	-

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			A4-TCLP-W1	HA22-TP5		HA24-TP2		HA24-B3	HA24-B3		HA24-B4
Sample Name	MCP		A4-TCLP-W1	HA22-TP5_0.0-5.0	HA22-TP5_5.0-10.0	HA24-TP2_0-5	HA24-TP2_5-10	HA24-B3_0-5	HA24-B3_5-10	HA24-B3_10-15	HA24-B4_0-5
Sample Date	Reportable		12/27/2023	07/28/2022	07/28/2022	12/26/2023	12/26/2023	12/27/2023	12/27/2023	12/27/2023	12/26/2023
	Concentration	TCLP		L2243206-03	L2243206-04	L2376095-07	L2376095-08		L2376243-02		
Lab Sample ID	RCS-1		L2376304-01	L2244219-03	L2244219-04	L2400003-03	L2400003-04	L2376243-01	L2400001-01	L2376243-03	L2376095-04
Sample Depth (bgs)	2014		0 - 5 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)	0 - 5 (ft)
Soil Description			FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
PCBs (mg/kg)											
Aroclor-1016 (PCB-1016)	1	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1221 (PCB-1221)	1	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1232 (PCB-1232)	1	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1242 (PCB-1242)	1	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1248 (PCB-1248)	1	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1254 (PCB-1254)	1	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1260 (PCB-1260)	1	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1262 (PCB-1262)	NA	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Aroclor-1268 (PCB-1268)	NA	NA	-	ND (0.0359)	ND (0.0358)	ND (0.0546)	ND (0.0556)	ND (0.0564)	ND (0.0529)	ND (0.0483)	ND (0.0514)
Other											
Total Solids (%)	NA	NA	89.6	92.5	92	85.1	89	87.6	90	95.2	96.5
Reactive Cyanide (mg/kg)	NA	NA	-	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)
Reactive Sulfide (mg/kg)	NA	NA	-	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NA	-	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	NA	-	8.8	8.8	8.75	8.02	8.05	11.1	8.72	9.05
Conductivity (umhos/cm)	NA	NA	-	220	210	380	320	480	920	360	200

ABBREVIATIONS AND NOTES:

mg/kg: milligram per kilogram
mg/L: milligram per liter
umhos/cm: micromhos per centimeter
-: Not Analyzed
bgs: below ground surface
ft: feet
MCP: 310 CMR 40.0000 Massachusetts Contingency Plan effective 25 April 2014; revisions 23 May 2014.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NI: Not Ignitable

- Analytes detected in Volatile and Semi-Volatile Organics for at least one sample are reported herein.
- For a complete list of analytes see the laboratory data sheets.
- For test methods used, see the laboratory data sheets.
*- Bold values indicate an exceedance of the **RCS-1** or **TCLP** criteria.*

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA24-B4		HA22-B3	HA22-B6	HA22-B6A		HA22-B6A	HA23-TP10	HA22-B2
Sample Name	MCP		HA24-B4_5-10	HA24-B4_10-15	HA22-B3_29.0-33.0	HA22-B6_1.0-6.0	HA22-B6A_5-10	HA22-B6A_10-15	HA22-B6A_35-40	HA23-TP10(ALT)_0-5	HA22-B2_0.5-5.0
Sample Date	Reportable		12/26/2023	12/26/2023	07/21/2022	07/05/2022	08/03/2022	08/03/2022	08/04/2022	12/20/2023	07/06/2022
	Concentration	TCLP	L2376095-05			L2240932-01	L2241779-01				
Lab Sample ID	RCS-1		L2400003-02	L2376095-06	L2239119-01	L2242131-01	L2242699-01	L2241779-02	L2242111-01	L2375330-01	L2235914-01
Sample Depth (bgs)	2014		5 - 10 (ft)	10 - 15 (ft)	29 - 33 (ft)	1 - 6 (ft)	5 - 10 (ft)	10 - 15 (ft)	35 - 40 (ft)	0 - 5 (ft)	0.5 - 5.5 (ft)
Soil Description			FILL	FILL/ORGANICS	NATURAL	FILL	FILL	FILL	NATURAL	FILL	FILL
Volatile Organic Compounds (mg/kg)											
2-Butanone (Methyl Ethyl Ketone)	4	NA	ND (0.0087)	0.065	ND (0.019)	ND (0.0096)	ND (0.0088)	ND (0.0088)	ND (0.01)	ND (0.012)	ND (0.0076)
Acetone	6	NA	ND (0.022)	0.22	ND (0.048)	ND (0.024)	ND (0.022)	ND (0.022)	ND (0.026)	ND (0.029)	0.039
Benzene	2	NA	ND (0.00043)	ND (0.00044)	ND (0.00095)	ND (0.00048)	ND (0.00044)	ND (0.00044)	ND (0.00053)	ND (0.00058)	ND (0.00038)
Cymene (p-Isopropyltoluene)	100	NA	ND (0.00087)	ND (0.00089)	ND (0.0019)	ND (0.00096)	ND (0.00088)	ND (0.00088)	ND (0.001)	ND (0.0012)	ND (0.00076)
Ethylbenzene	40	NA	ND (0.00087)	ND (0.00089)	ND (0.0019)	ND (0.00096)	ND (0.00088)	ND (0.00088)	ND (0.001)	ND (0.0012)	ND (0.00076)
Naphthalene	4	NA	0.0057	ND (0.0036)	ND (0.0076)	ND (0.0038)	ND (0.0035)	ND (0.0035)	ND (0.0042)	ND (0.0046)	ND (0.003)
Styrene	3	NA	ND (0.00087)	ND (0.00089)	ND (0.0019)	ND (0.00096)	ND (0.00088)	ND (0.00088)	ND (0.001)	ND (0.0012)	ND (0.00076)
Tetrachloroethene	1	NA	0.00044	ND (0.00044)	ND (0.00095)	ND (0.00048)	ND (0.00044)	ND (0.00044)	ND (0.00053)	ND (0.00058)	ND (0.00038)
Toluene	30	NA	ND (0.00087)	ND (0.00089)	ND (0.0019)	ND (0.00096)	ND (0.00088)	ND (0.00088)	ND (0.001)	ND (0.0012)	ND (0.00076)
Xylene (Total)	100	NA	0.004	ND (0.00089)	ND (0.0019)	ND (0.00096)	ND (0.00088)	ND (0.00088)	ND (0.001)	ND (0.0012)	ND (0.00076)
SUM of Volatile Organic Compounds	NA	NA	0.01014	0.285	ND	ND	ND	ND	ND	ND	0.039
Semi-Volatile Organic Compounds (mg/kg)											
2-Methylnaphthalene	0.7	NA	ND (0.077)	ND (0.089)	ND (0.086)	0.44	**0.88**	ND (0.081)	ND (0.086)	ND (0.075)	ND (0.073)
Acenaphthene	4	NA	ND (0.15)	0.17	ND (0.16)	2	3.2	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.14)
Acenaphthylene	1	NA	ND (0.15)	ND (0.17)	ND (0.16)	0.28	**ND (1.5)**	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.14)
Anthracene	1000	NA	0.21	0.53	ND (0.12)	6.6	5.6	ND (0.12)	ND (0.12)	ND (0.11)	0.24
Benzo(a)anthracene	7	NA	0.58	1.3	ND (0.12)	**25**	**8.8**	ND (0.12)	ND (0.12)	ND (0.11)	0.64
Benzo(a)pyrene	2	NA	0.55	1.2	ND (0.16)	**19**	**9.9**	ND (0.15)	ND (0.16)	ND (0.14)	0.68
Benzo(b)fluoranthene	7	NA	0.64	1.3	ND (0.12)	**22**	**10**	ND (0.12)	ND (0.12)	ND (0.11)	0.88
Benzo(g,h,i)perylene	1000	NA	0.31	0.6	ND (0.16)	8.5	4.9	ND (0.15)	ND (0.16)	ND (0.14)	0.36
Benzo(k)fluoranthene	70	NA	0.2	0.5	ND (0.12)	5.3	3.7	ND (0.12)	ND (0.12)	ND (0.11)	0.27
Biphenyl	0.05	NA	ND (0.037)	ND (0.042)	ND (0.041)	**0.12**	**ND (0.38)**	ND (0.038)	ND (0.041)	ND (0.036)	ND (0.035)
bis(2-Ethylhexyl)phthalate	90	NA	ND (0.18)	ND (0.21)	ND (0.2)	ND (0.19)	ND (1.9)	ND (0.19)	ND (0.2)	ND (0.18)	ND (0.17)
Chrysene	70	NA	0.51	1.2	ND (0.12)	25	8.8	ND (0.12)	ND (0.12)	ND (0.11)	0.62
Dibenz(a,h)anthracene	0.7	NA	ND (0.077)	0.15	ND (0.086)	**2.6**	**1**	ND (0.081)	ND (0.086)	ND (0.075)	0.099
Dibenzofuran	100	NA	ND (0.18)	ND (0.21)	ND (0.2)	1.1	2.2	ND (0.19)	ND (0.2)	ND (0.18)	ND (0.17)
Fluoranthene	1000	NA	1.3	2.6	ND (0.12)	32	25	ND (0.12)	ND (0.12)	0.16	1.2
Fluorene	1000	NA	ND (0.18)	ND (0.21)	ND (0.2)	2.3	2.8	ND (0.19)	ND (0.2)	ND (0.18)	ND (0.17)
Indeno(1,2,3-cd)pyrene	7	NA	0.26	0.56	ND (0.16)	**9.8**	5.5	ND (0.15)	ND (0.16)	ND (0.14)	0.43
Naphthalene	4	NA	ND (0.18)	ND (0.21)	ND (0.2)	0.4	ND (1.9)	ND (0.19)	ND (0.2)	ND (0.18)	ND (0.17)
Phenanthrene	10	NA	0.99	2.2	ND (0.12)	**24**	**26**	ND (0.12)	ND (0.12)	ND (0.11)	0.7
Pyrene	1000	NA	1.1	2.4	ND (0.12)	28	21	ND (0.12)	ND (0.12)	0.13	1
SUM of Semi-Volatile Organic Compounds	NA	NA	6.65	14.71	ND	214.44	139.28	ND	ND	0.29	7.119
Total Petroleum Hydrocarbons (mg/kg)											
Petroleum hydrocarbons	1000	NA	78.3	ND (43.1)	ND (40.4)	261	199	ND (39.2)	ND (40.2)	269	ND (34.1)
Inorganic Compounds (mg/kg)											
Antimony	20	NA	ND (2.21)	ND (2.55)	ND (4.73)	ND (2.26)	ND (2.34)	ND (2.29)	ND (2.39)	ND (2.08)	ND (2.08)
Arsenic	20	NA	**88.3**	4.56	3.38	5.32	4.72	1.88	14.7	2.53	0.901
Barium	1000	NA	162	21.6	55.8	82.3	46.9	14.3	51.3	18	9.16
Beryllium	90	NA	0.278	0.275	0.539	0.271	0.243	ND (0.229)	0.516	0.262	ND (0.208)
Cadmium	70	NA	0.73	ND (0.51)	1.08	ND (0.451)	0.856	ND (0.458)	0.835	ND (0.415)	ND (0.415)
Chromium	100	NA	13.8	12.3	34.4	16.7	18.6	35.6	26.5	7.23	6.01
Lead	200	NA	**491**	19.3	11.2	117	153	7.58	5.56	44.9	21.5
Mercury	20	NA	1.55	ND (0.105)	ND (0.09)	0.1	1.46	ND (0.095)	ND (0.081)	ND (0.085)	ND (0.078)
Nickel	600	NA	10.1	9.2	22.4	11.9	8.02	5.12	17.7	5.79	8.46
Selenium	400	NA	ND (2.21)	ND (2.55)	ND (4.73)	ND (2.26)	ND (2.34)	ND (2.29)	ND (2.39)	ND (2.08)	ND (2.08)
Silver	100	NA	0.955	ND (0.51)	ND (0.946)	ND (0.451)	ND (0.468)	ND (0.458)	ND (0.477)	ND (0.415)	ND (0.415)
Thallium	8	NA	ND (2.21)	ND (2.55)	ND (4.73)	ND (2.26)	ND (2.34)	ND (2.29)	ND (2.39)	ND (2.08)	ND (2.08)
Vanadium	400	NA	16.4	19.6	43	24.5	15.6	11.6	34.9	12.4	7.46
Zinc	1000	NA	396	65.5	56.2	74.1	245	19.6	41.7	27.1	22.5
TCLP Inorganic Compounds (mg/L)											
Lead	NA	5	1.07	-	-	ND (0.5)	0.601	-	-	-	-

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA24-B4		HA22-B3	HA22-B6	HA22-B6A		HA22-B6A	HA23-TP10	HA22-B2
Sample Name	MCP		HA24-B4_5-10	HA24-B4_10-15	HA22-B3_29.0-33.0	HA22-B6_1.0-6.0	HA22-B6A_5-10	HA22-B6A_10-15	HA22-B6A_35-40	HA23-TP10(ALT)_0-5	HA22-B2_0.5-5.0
Sample Date	Reportable		12/26/2023	12/26/2023	07/21/2022	07/05/2022	08/03/2022	08/03/2022	08/04/2022	12/20/2023	07/06/2022
	Concentration	TCLP	L2376095-05			L2240932-01	L2241779-01				
Lab Sample ID	RCS-1		L2400003-02	L2376095-06	L2239119-01	L2242131-01	L2242699-01	L2241779-02	L2242111-01	L2375330-01	L2235914-01
Sample Depth (bgs)	2014		5 - 10 (ft)	10 - 15 (ft)	29 - 33 (ft)	1 - 6 (ft)	5 - 10 (ft)	10 - 15 (ft)	35 - 40 (ft)	0 - 5 (ft)	0.5 - 5.5 (ft)
Soil Description			FILL	FILL/ORGANICS	NATURAL	FILL	FILL	FILL	NATURAL	FILL	FILL
PCBs (mg/kg)											
Aroclor-1016 (PCB-1016)	1	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1221 (PCB-1221)	1	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1232 (PCB-1232)	1	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1242 (PCB-1242)	1	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1248 (PCB-1248)	1	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1254 (PCB-1254)	1	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1260 (PCB-1260)	1	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1262 (PCB-1262)	NA	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Aroclor-1268 (PCB-1268)	NA	NA	ND (0.0548)	ND (0.0638)	ND (0.0415)	ND (0.0376)	ND (0.0393)	ND (0.0381)	ND (0.0404)	ND (0.051)	ND (0.0343)
Other											
Total Solids (%)	NA	NA	90.3	76.7	79.7	87.4	84	84.5	79.4	90.6	94.4
Reactive Cyanide (mg/kg)	NA	NA	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)
Reactive Sulfide (mg/kg)	NA	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	NA	10.2	8.09	8	8.9	9.8	9.1	8.2	8.45	8.2
Conductivity (umhos/cm)	NA	NA	320	100	740	530	170	190	830	56	2000

ABBREVIATIONS AND NOTES:

mg/kg: milligram per kilogram
mg/L: milligram per liter
umhos/cm: micromhos per centimeter
-: Not Analyzed
bgs: below ground surface
ft: feet
MCP: 310 CMR 40.0000 Massachusetts Contingency Plan effective 25 April 2014; revisions 23 May 2014.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NI: Not Ignitable

- Analytes detected in Volatile and Semi-Volatile Organics for at least one sample are reported herein.
- For a complete list of analytes see the laboratory data sheets.
- For test methods used, see the laboratory data sheets.
*- Bold values indicate an exceedance of the **RCS-1** or **TCLP** criteria.*

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA22-B2		HA22-B5			HA22-TP1		HA22-B1	
Sample Name	MCP		HA22-B2_5.0-7.0	HA22-B2_39.0-41.0	HA22-B5_0.5-2.6	HA22-B5_6.0-10.0	HA22-B5_139.0-141.0	HA22-TP1_0.6-4.0	HA22-TP1_5-8	HA22-B1_0.7-3.0	HA22-B1_5.0-9.0
Sample Date	Reportable		07/28/2022	07/28/2022	07/05/2022	07/07/2022	07/11/2022	07/19/2022	08/01/2022	07/06/2022	08/10/2022
	Concentration	TCLP									
Lab Sample ID	RCS-1		L2240510-01	L2240510-06	L2235654-02	L2236315-01	L2236795-01	L2238398-01	L2241084-01	L2235914-03	L2243151-01
Sample Depth (bgs)	2014		5 - 7 (ft)	39 - 41 (ft)	0.5 - 2.6 (ft)	6 - 10 (ft)	139 - 141 (ft)	0.6 - 4 (ft)	5 - 8 (ft)	0.7 - 3 (ft)	5 - 9 (ft)
Soil Description			FILL	NATURAL	FILL	FILL	NATURAL	FILL	FILL	FILL	FILL
Volatile Organic Compounds (mg/kg)											
2-Butanone (Methyl Ethyl Ketone)	4	NA	ND (0.0098)	ND (0.0098)	ND (0.0073)	ND (0.01)	ND (0.011)	ND (0.0082)	ND (0.011)	ND (0.0076)	ND (0.011)
Acetone	6	NA	0.026	ND (0.024)	ND (0.018)	ND (0.025)	ND (0.028)	ND (0.02)	ND (0.028)	ND (0.019)	ND (0.028)
Benzene	2	NA	ND (0.00049)	ND (0.00049)	ND (0.00037)	ND (0.0005)	ND (0.00056)	ND (0.00041)	ND (0.00055)	ND (0.00038)	0.031
Cymene (p-Isopropyltoluene)	100	NA	ND (0.00098)	ND (0.00098)	ND (0.00073)	ND (0.001)	ND (0.0011)	ND (0.00082)	ND (0.0011)	ND (0.00076)	0.026
Ethylbenzene	40	NA	ND (0.00098)	ND (0.00098)	ND (0.00073)	ND (0.001)	ND (0.0011)	ND (0.00082)	ND (0.0011)	ND (0.00076)	0.0042
Naphthalene	4	NA	0.0069	ND (0.0039)	ND (0.0029)	ND (0.004)	ND (0.0045)	ND (0.0033)	ND (0.0044)	ND (0.003)	0.017
Styrene	3	NA	ND (0.00098)	ND (0.00098)	ND (0.00073)	ND (0.001)	ND (0.0011)	ND (0.00082)	ND (0.0011)	ND (0.00076)	0.0087
Tetrachloroethene	1	NA	ND (0.00049)	ND (0.00049)	ND (0.00037)	ND (0.0005)	ND (0.00056)	ND (0.00041)	ND (0.00055)	ND (0.00038)	ND (0.00056)
Toluene	30	NA	ND (0.00098)	ND (0.00098)	ND (0.00073)	ND (0.001)	ND (0.0011)	0.0017	ND (0.0011)	ND (0.00076)	0.032
Xylene (Total)	100	NA	ND (0.00098)	ND (0.00098)	ND (0.00073)	ND (0.001)	ND (0.0011)	ND (0.00082)	ND (0.0011)	ND (0.00076)	0.013
SUM of Volatile Organic Compounds	NA	NA	0.0329	ND	ND	ND	ND	0.0017	ND	ND	0.1319
Semi-Volatile Organic Compounds (mg/kg)											
2-Methylnaphthalene	0.7	NA	ND (0.081)	ND (0.086)	0.23	ND (0.084)	ND (0.088)	**0.82**	ND (0.085)	ND (0.071)	0.65
Acenaphthene	4	NA	ND (0.15)	ND (0.16)	1.2	ND (0.16)	ND (0.17)	1.7	ND (0.16)	0.28	ND (0.15)
Acenaphthylene	1	NA	ND (0.15)	ND (0.16)	0.18	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.15)
Anthracene	1000	NA	ND (0.12)	ND (0.12)	2.6	ND (0.12)	ND (0.12)	3.5	ND (0.12)	0.92	ND (0.11)
Benzo(a)anthracene	7	NA	ND (0.12)	ND (0.12)	5.6	ND (0.12)	ND (0.12)	5.8	ND (0.12)	2.9	ND (0.11)
Benzo(a)pyrene	2	NA	ND (0.15)	ND (0.16)	**5.8**	ND (0.16)	ND (0.17)	**4.4**	ND (0.16)	**3**	ND (0.15)
Benzo(b)fluoranthene	7	NA	ND (0.12)	ND (0.12)	4.6	ND (0.12)	ND (0.12)	5.2	ND (0.12)	3.6	ND (0.11)
Benzo(g,h,i)perylene	1000	NA	ND (0.15)	ND (0.16)	2.6	ND (0.16)	ND (0.17)	1.9	ND (0.16)	1.3	ND (0.15)
Benzo(k)fluoranthene	70	NA	ND (0.12)	ND (0.12)	1.5	ND (0.12)	ND (0.12)	1.5	ND (0.12)	1.1	ND (0.11)
Biphenyl	0.05	NA	ND (0.038)	ND (0.041)	**0.078**	ND (0.04)	ND (0.042)	**0.19**	ND (0.041)	ND (0.034)	**0.15**
bis(2-Ethylhexyl)phthalate	90	NA	ND (0.19)	ND (0.2)	ND (0.18)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.17)	ND (0.18)
Chrysene	70	NA	ND (0.12)	ND (0.12)	5.2	ND (0.12)	ND (0.12)	5.3	ND (0.12)	2.5	ND (0.11)
Dibenz(a,h)anthracene	0.7	NA	ND (0.081)	ND (0.086)	0.64	ND (0.084)	ND (0.088)	0.61	ND (0.085)	0.38	ND (0.077)
Dibenzofuran	100	NA	ND (0.19)	ND (0.2)	0.83	ND (0.2)	ND (0.21)	1.6	ND (0.2)	0.2	ND (0.18)
Fluoranthene	1000	NA	0.13	ND (0.12)	8.4	ND (0.12)	ND (0.12)	17	ND (0.12)	4.8	0.16
Fluorene	1000	NA	ND (0.19)	ND (0.2)	0.96	ND (0.2)	ND (0.21)	1.5	ND (0.2)	0.29	ND (0.18)
Indeno(1,2,3-cd)pyrene	7	NA	ND (0.15)	ND (0.16)	3	ND (0.16)	ND (0.17)	2.5	ND (0.16)	1.6	ND (0.15)
Naphthalene	4	NA	ND (0.19)	ND (0.2)	0.28	ND (0.2)	ND (0.21)	1.4	ND (0.2)	ND (0.17)	ND (0.18)
Phenanthrene	10	NA	ND (0.12)	ND (0.12)	7.8	ND (0.12)	ND (0.12)	**19**	ND (0.12)	3	0.23
Pyrene	1000	NA	ND (0.12)	ND (0.12)	7.2	ND (0.12)	ND (0.12)	14	ND (0.12)	4	0.18
SUM of Semi-Volatile Organic Compounds	NA	NA	0.13	ND	58.698	ND	ND	87.92	ND	29.87	1.37
Total Petroleum Hydrocarbons (mg/kg)											
Petroleum hydrocarbons	1000	NA	337	ND (39.5)	156	ND (39.3)	ND (40.8)	132	ND (40)	137	982
Inorganic Compounds (mg/kg)											
Antimony	20	NA	ND (2.28)	ND (2.34)	ND (2.02)	ND (2.38)	ND (2.45)	ND (2.25)	ND (2.47)	ND (2.04)	ND (2.2)
Arsenic	20	NA	3.97	7.47	1.8	0.998	8.77	3.16	2.6	1.67	1.5
Barium	1000	NA	46.3	55.3	15.6	10	12.8	37.5	16.5	26.1	12.3
Beryllium	90	NA	0.3	0.579	ND (0.202)	ND (0.238)	0.284	0.238	0.257	ND (0.204)	ND (0.22)
Cadmium	70	NA	0.578	0.831	ND (0.404)	ND (0.475)	1.1	0.526	ND (0.494)	ND (0.409)	ND (0.439)
Chromium	100	NA	20.3	28.9	4.82	6.37	67.5	9.82	13.1	11.3	17.6
Lead	200	NA	28.3	6.65	42.3	3.53	6.4	39.3	5.76	8.22	3.37
Mercury	20	NA	0.092	ND (0.085)	0.289	ND (0.087)	ND (0.1)	0.095	ND (0.09)	ND (0.075)	ND (0.083)
Nickel	600	NA	11.1	19	5.17	5.28	16.7	7.71	9.83	4.34	5.94
Selenium	400	NA	ND (2.28)	ND (2.34)	ND (2.02)	ND (2.38)	ND (2.45)	ND (2.25)	ND (2.47)	ND (2.04)	ND (2.2)
Silver	100	NA	ND (0.455)	ND (0.467)	ND (0.404)	ND (0.475)	ND (0.49)	ND (0.449)	ND (0.494)	ND (0.409)	ND (0.439)
Thallium	8	NA	ND (2.28)	ND (2.34)	ND (2.02)	ND (2.38)	ND (2.45)	ND (2.25)	ND (2.47)	ND (2.04)	ND (2.2)
Vanadium	400	NA	19.8	38.6	8.57	11.6	19.7	16.3	18.3	6.96	9.61
Zinc	1000	NA	41.6	46.4	33.9	14.5	39.3	58.1	27.2	23.7	15.2
TCLP Inorganic Compounds (mg/L)											
Lead	NA	5	-	-	-	-	-	-	-	-	-

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA22-B2		HA22-B5			HA22-TP1		HA22-B1	
Sample Name	MCP		HA22-B2_5.0-7.0	HA22-B2_39.0-41.0	HA22-B5_0.5-2.6	HA22-B5_6.0-10.0	HA22-B5_139.0-141.0	HA22-TP1_0.6-4.0	HA22-TP1_5-8	HA22-B1_0.7-3.0	HA22-B1_5.0-9.0
Sample Date	Reportable		07/28/2022	07/28/2022	07/05/2022	07/07/2022	07/11/2022	07/19/2022	08/01/2022	07/06/2022	08/10/2022
	Concentration	TCLP									
Lab Sample ID	RCS-1		L2240510-01	L2240510-06	L2235654-02	L2236315-01	L2236795-01	L2238398-01	L2241084-01	L2235914-03	L2243151-01
Sample Depth (bgs)	2014		5 - 7 (ft)	39 - 41 (ft)	0.5 - 2.6 (ft)	6 - 10 (ft)	139 - 141 (ft)	0.6 - 4 (ft)	5 - 8 (ft)	0.7 - 3 (ft)	5 - 9 (ft)
Soil Description			FILL	NATURAL	FILL	FILL	NATURAL	FILL	FILL	FILL	FILL
PCBs (mg/kg)											
Aroclor-1016 (PCB-1016)	1	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1221 (PCB-1221)	1	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1232 (PCB-1232)	1	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1242 (PCB-1242)	1	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1248 (PCB-1248)	1	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1254 (PCB-1254)	1	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1260 (PCB-1260)	1	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1262 (PCB-1262)	NA	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Aroclor-1268 (PCB-1268)	NA	NA	ND (0.0387)	ND (0.0408)	ND (0.0339)	ND (0.0398)	ND (0.041)	ND (0.0381)	ND (0.0406)	ND (0.0335)	ND (0.0367)
Other											
Total Solids (%)	NA	NA	84.4	80.5	94.4	81.9	77	86.5	80	95.8	89.7
Reactive Cyanide (mg/kg)	NA	NA	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)
Reactive Sulfide (mg/kg)	NA	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	NA	8.1	8.1	8.8	8	8.5	8.2	7.2	11.6	10.8
Conductivity (umhos/cm)	NA	NA	3600	740	63	24	320	270	87	440	150

ABBREVIATIONS AND NOTES:

mg/kg: milligram per kilogram
mg/L: milligram per liter
umhos/cm: micromhos per centimeter
-: Not Analyzed
bgs: below ground surface
ft: feet
MCP: 310 CMR 40.0000 Massachusetts Contingency Plan effective 25 April 2014; revisions 23 May 2014.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NI: Not Ignitable

- Analytes detected in Volatile and Semi-Volatile Organics for at least one sample are reported herein.
- For a complete list of analytes see the laboratory data sheets.
- For test methods used, see the laboratory data sheets.
*- Bold values indicate an exceedance of the **RCS-1** or **TCLP** criteria.*

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

Location Name			HA22-B1	HA22-TP2		HA23-TP12
Sample Name	MCP		HA22-B1_79.0-81.0	HA22-TP2_0.7-4.0	HA22-TP2_4.0-8.0	HA23-TP12_0-4.1
Sample Date	Reportable		08/12/2022	07/06/2022	07/13/2022	12/19/2023
	Concentration	TCLP				L2375037-01
Lab Sample ID	RCS-1		L2243595-01	L2235914-02	L2237298-01	L2376075-01
Sample Depth (bgs)	2014		79 - 81 (ft)	0.7 - 4 (ft)	4 - 8 (ft)	0 - 4.1 (ft)
Soil Description			NATURAL	FILL	FILL	FILL
Volatile Organic Compounds (mg/kg)						
2-Butanone (Methyl Ethyl Ketone)	4	NA	ND (0.015)	ND (0.012)	ND (0.0074)	ND (0.01)
Acetone	6	NA	ND (0.037)	0.039	ND (0.018)	0.063
Benzene	2	NA	ND (0.00074)	ND (0.00059)	ND (0.00037)	ND (0.0005)
Cymene (p-Isopropyltoluene)	100	NA	ND (0.0015)	ND (0.0012)	ND (0.00074)	ND (0.001)
Ethylbenzene	40	NA	ND (0.0015)	ND (0.0012)	ND (0.00074)	ND (0.001)
Naphthalene	4	NA	ND (0.006)	ND (0.0047)	ND (0.003)	ND (0.004)
Styrene	3	NA	ND (0.0015)	ND (0.0012)	ND (0.00074)	ND (0.001)
Tetrachloroethene	1	NA	ND (0.00074)	ND (0.00059)	ND (0.00037)	ND (0.0005)
Toluene	30	NA	ND (0.0015)	ND (0.0012)	ND (0.00074)	ND (0.001)
Xylene (Total)	100	NA	ND (0.0015)	ND (0.0012)	ND (0.00074)	ND (0.001)
SUM of Volatile Organic Compounds	NA	NA	ND	0.039	ND	0.063
Semi-Volatile Organic Compounds (mg/kg)						
2-Methylnaphthalene	0.7	NA	ND (0.092)	ND (0.075)	ND (0.076)	0.099
Acenaphthene	4	NA	ND (0.18)	ND (0.14)	0.38	0.26
Acenaphthylene	1	NA	ND (0.18)	ND (0.14)	ND (0.14)	ND (0.15)
Anthracene	1000	NA	ND (0.13)	0.11	0.75	0.64
Benzo(a)anthracene	7	NA	ND (0.13)	0.42	1.5	1.7
Benzo(a)pyrene	2	NA	ND (0.18)	0.41	1.3	1.6
Benzo(b)fluoranthene	7	NA	ND (0.13)	0.48	1.5	2
Benzo(g,h,i)perylene	1000	NA	ND (0.18)	0.18	0.67	0.91
Benzo(k)fluoranthene	70	NA	ND (0.13)	0.15	0.47	0.65
Biphenyl	0.05	NA	ND (0.044)	ND (0.036)	ND (0.036)	ND (0.038)
bis(2-Ethylhexyl)phthalate	90	NA	ND (0.22)	ND (0.18)	ND (0.18)	0.59
Chrysene	70	NA	ND (0.13)	0.43	1.5	1.7
Dibenz(a,h)anthracene	0.7	NA	ND (0.092)	ND (0.075)	0.18	0.25
Dibenzofuran	100	NA	ND (0.22)	ND (0.18)	0.24	0.2
Fluoranthene	1000	NA	ND (0.13)	0.7	3.2	3.5
Fluorene	1000	NA	ND (0.22)	ND (0.18)	0.26	0.21
Indeno(1,2,3-cd)pyrene	7	NA	ND (0.18)	0.21	0.8	0.95
Naphthalene	4	NA	ND (0.22)	ND (0.18)	ND (0.18)	ND (0.19)
Phenanthrene	10	NA	ND (0.13)	0.45	3.2	2.9
Pyrene	1000	NA	ND (0.13)	0.64	2.8	3
SUM of Semi-Volatile Organic Compounds	NA	NA	ND	4.18	18.75	21.159
Total Petroleum Hydrocarbons (mg/kg)						
Petroleum hydrocarbons	1000	NA	ND (43)	79.3	60.9	133
Inorganic Compounds (mg/kg)						
Antimony	20	NA	ND (2.58)	ND (2.13)	ND (2.14)	ND (2.24)
Arsenic	20	NA	10	1.57	1.88	3.68
Barium	1000	NA	68.8	21.8	38.7	41.2
Beryllium	90	NA	0.666	ND (0.213)	ND (0.214)	0.231
Cadmium	70	NA	0.795	0.871	0.466	ND (0.447)
Chromium	100	NA	33	7.08	10	10.6
Lead	200	NA	7	37.4	55.7	142
Mercury	20	NA	ND (0.109)	ND (0.081)	ND (0.08)	0.176
Nickel	600	NA	21.2	5.98	6.46	8.25
Selenium	400	NA	ND (2.58)	ND (2.13)	ND (2.14)	ND (2.24)
Silver	100	NA	ND (0.516)	ND (0.427)	ND (0.428)	ND (0.447)
Thallium	8	NA	ND (2.58)	ND (2.13)	ND (2.14)	ND (2.24)
Vanadium	400	NA	44.5	12.3	16	14.6
Zinc	1000	NA	53.7	188	121	156
TCLP Inorganic Compounds (mg/L)						
Lead	NA	5	-	-	-	ND (0.5)

TABLE II
SUMMARY OF ANALYTICAL RESULTS
MATTHEWS ARENA - NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS
FILE NO. 0134206

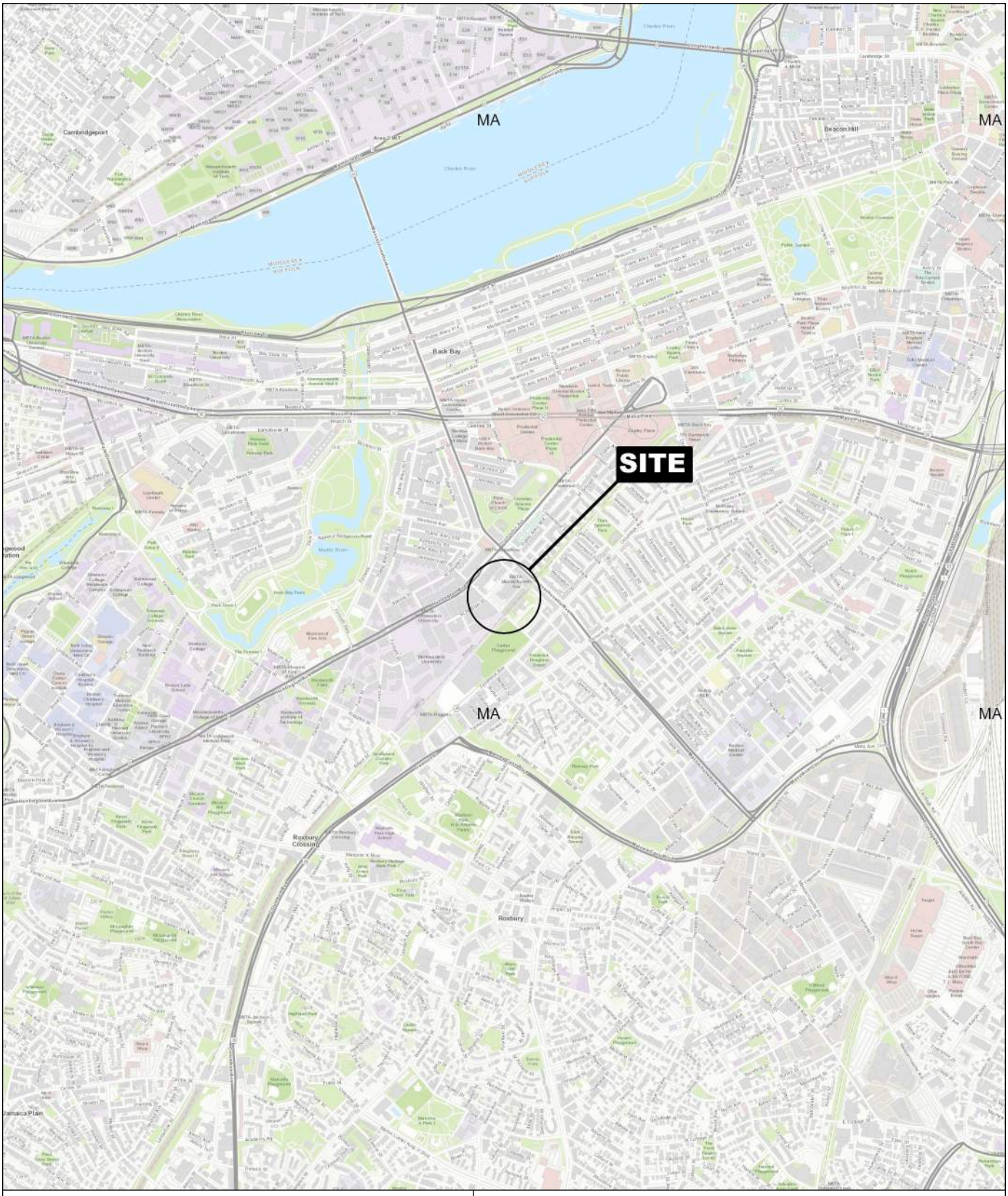
Location Name			HA22-B1	HA22-TP2		HA23-TP12
Sample Name	MCP		HA22-B1_79.0-81.0	HA22-TP2_0.7-4.0	HA22-TP2_4.0-8.0	HA23-TP12_0-4.1
Sample Date	Reportable		08/12/2022	07/06/2022	07/13/2022	12/19/2023
	Concentration	TCLP				L2375037-01
Lab Sample ID	RCS-1		L2243595-01	L2235914-02	L2237298-01	L2376075-01
Sample Depth (bgs)	2014		79 - 81 (ft)	0.7 - 4 (ft)	4 - 8 (ft)	0 - 4.1 (ft)
Soil Description			NATURAL	FILL	FILL	FILL
PCBs (mg/kg)						
Aroclor-1016 (PCB-1016)	1	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1221 (PCB-1221)	1	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1232 (PCB-1232)	1	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1242 (PCB-1242)	1	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1248 (PCB-1248)	1	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1254 (PCB-1254)	1	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1260 (PCB-1260)	1	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1262 (PCB-1262)	NA	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Aroclor-1268 (PCB-1268)	NA	NA	ND (0.0425)	ND (0.0355)	ND (0.0346)	ND (0.0557)
Other						
Total Solids (%)	NA	NA	74.3	92	90.7	87
Reactive Cyanide (mg/kg)	NA	NA	ND (130)	ND (130)	ND (130)	ND (130)
Reactive Sulfide (mg/kg)	NA	NA	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NA	NI	NI	NI	NI
pH (lab) (pH units)	NA	NA	8.3	8.9	8.4	9.23
Conductivity (umhos/cm)	NA	NA	740	150	320	350

ABBREVIATIONS AND NOTES:

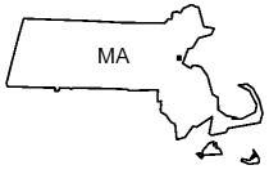
mg/kg: milligram per kilogram
mg/L: milligram per liter
umhos/cm: micromhos per centimeter
-: Not Analyzed
bgs: below ground surface
ft: feet
MCP: 310 CMR 40.0000 Massachusetts Contingency Plan effective 25 April 2014; revisions 23 May 2014.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NI: Not Ignitable

- Analytes detected in Volatile and Semi-Volatile Organics for at least one sample are reported herein.
- For a complete list of analytes see the laboratory data sheets.
- For test methods used, see the laboratory data sheets.
*- Bold values indicate an exceedance of the **RCS-1** or **TCLP** criteria.*

FIGURES



SITE COORDINATES: 42°20'27"N, 71°05'05"W



MAP SOURCE: USGS

HALEY ALDRICH

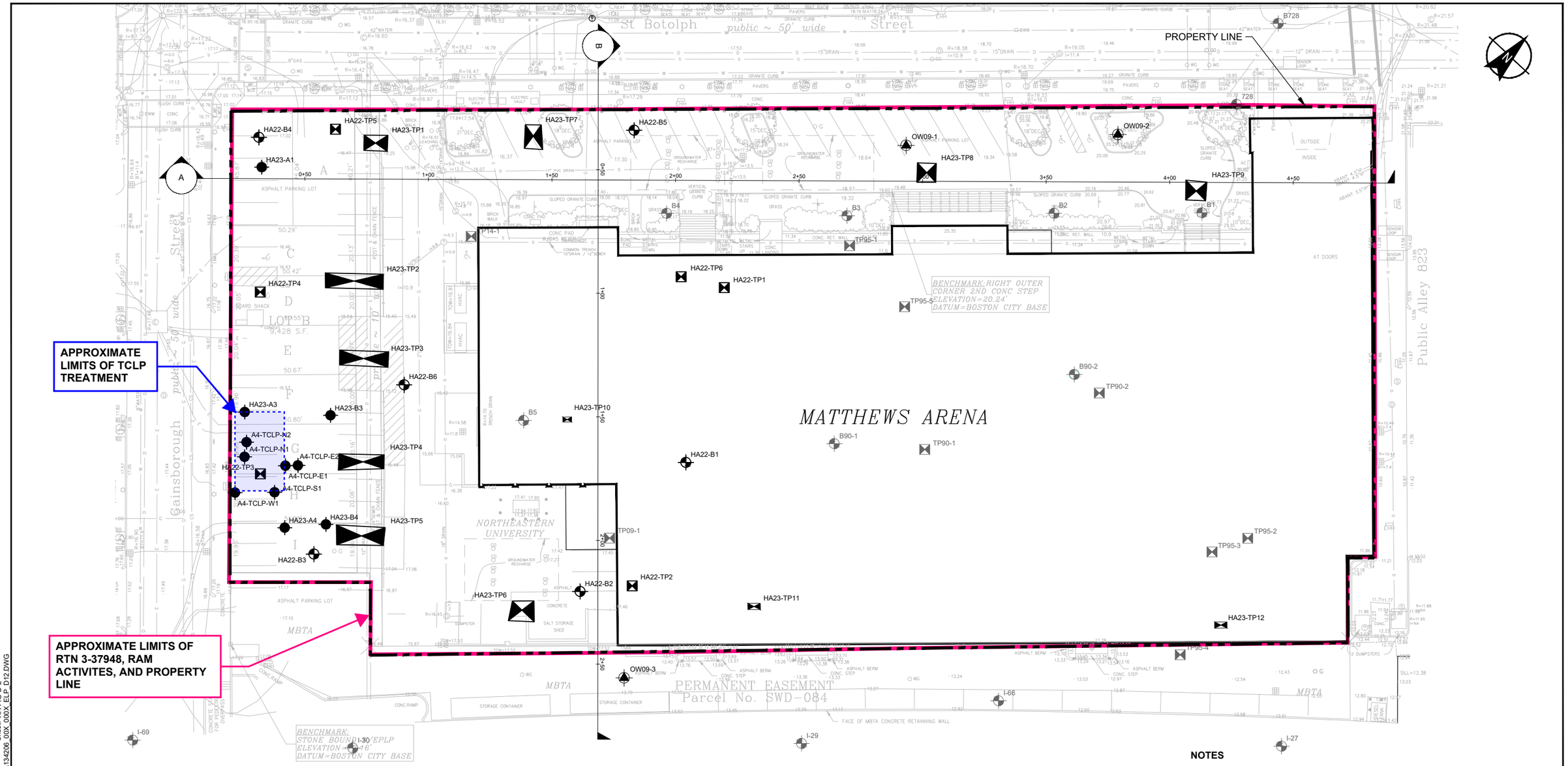
MULTI-PURPOSE ARENA
NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 INCH = 2,000 FEET
APRIL 2024

FIGURE 1

0134206_009_LOCUS HALEYALDRICH\DHESS



LEGEND

- DESIGNATION AND APPROXIMATE LOCATION OF PUSHPROBE PERORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING 26 DECEMBER 2023 TO 27 DECEMBER 2023 AND MONITORED BY HALEY & ALDRICH, INC.
- HA22-B# — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING 5 JULY 2022 TO 18 AUGUST 2022 AND MONITORED BY HALEY & ALDRICH, INC.
- OW09-# B3## (OW) B105(OW) — DESIGNATION AND APPROXIMATE LOCATION OF MONITORING WELL INSTALLED BY NEW HAMPSHIRE BORING, INC. DURING 18 MAY 2006 TO 14 DECEMBER 2009 AND MONITORED BY HALEY & ALDRICH, INC.
- DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING PERFORMED BY OTHERS
- HA23-TP# — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY JAMES W. FLETT CO. INC. DURING 19 DECEMBER 2023 TO 28 DECEMBER 2023 AND MONITORED BY HALEY & ALDRICH, INC.
- HA22-TP# — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY J. DERENZO CO. IN AUGUST 2022 AND MONITORED BY HALEY & ALDRICH, INC.
- DESIGNATION AND APPROXIMATE LOCATION OF HISTORIC TEST PIT EXCAVATED BY OTHERS FROM JUNE 1990 TO DECEMBER 2014.

0 20 40 60 80
SCALE IN FEET

NOTES

1. BASE PLAN REFERENCES DRAWING TITLED "NU-MATTHEWSARENATOPO-XP-MODEL.DWG", DATED 19 MAY 2022, BY R.E. CAMERON & ASSOCIATES, LLC. RECEIVED ON 28 JUNE 2022.
2. LOCATION OF EXPLORATIONS SHOULD BE CONSIDERED APPROXIMATE.

HALEY ALDRICH

MULTI-PURPOSE ARENA
NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS

SUBSURFACE EXPLORATION LOCATION PLAN AND LIMITS OF DISPOSAL SITE

SCALE: AS SHOWN
APRIL 2024

FIGURE 2

Saved by: GANDERSON Printed: 1/12/2024 8:45 AM Sheet: HA-FIG-D-L
\\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\CAD\FIGURES\134206_00X_000X_ELP_D12.DWG

MassDEP - Bureau of Waste Site Cleanup

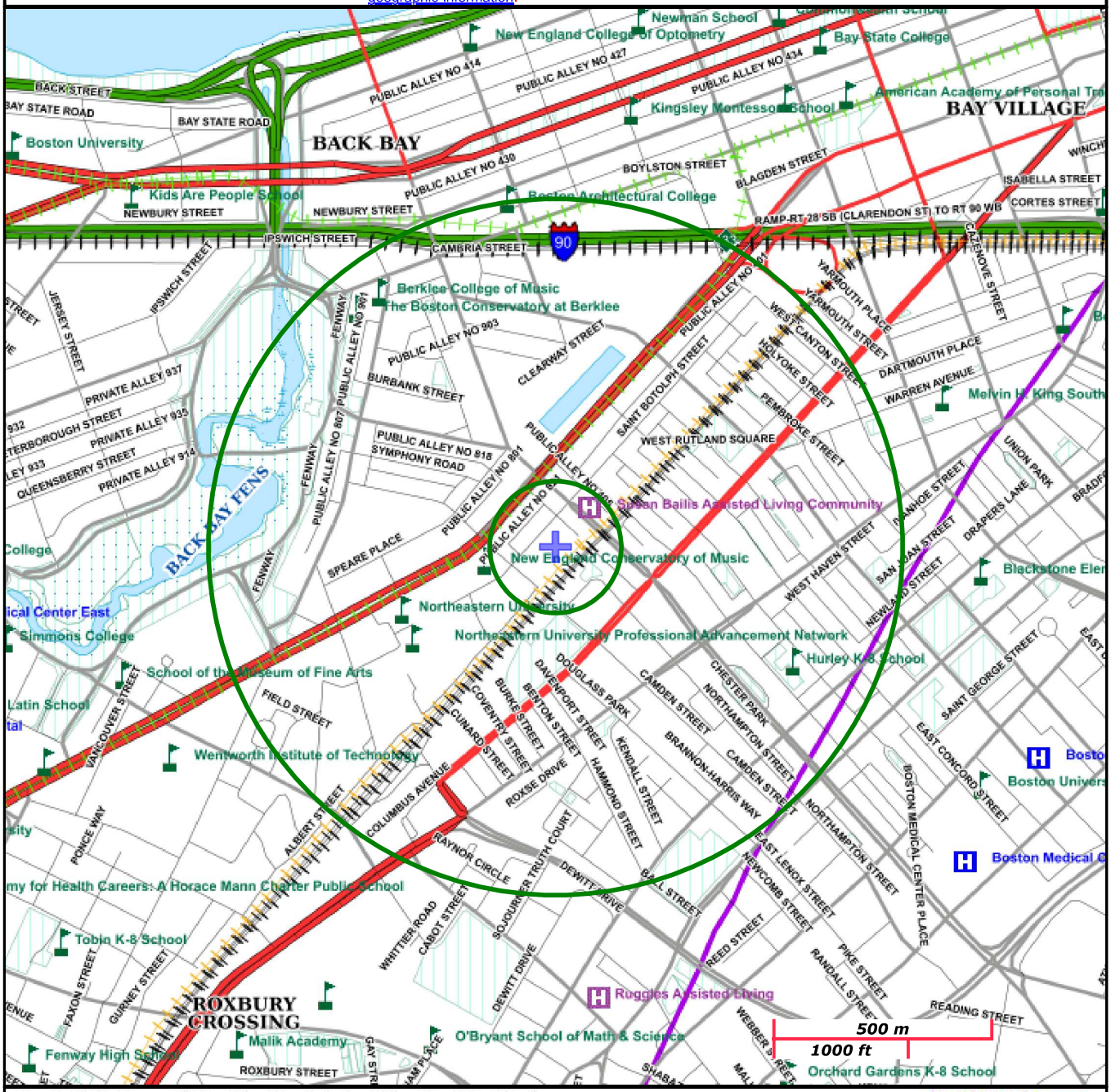
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
MATTHEWS ARENA
262 ST. BOTOLPH STREET BOSTON, MA
3-000037948

NAD83 UTM Meters:
4689772mN , 328290mE (Zone: 19)
January 18, 2024

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
NHESP Pri-Hab of Rare Species; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

HALEY ALDRICH

NORTHEASTERN UNIVERSITY- MATTHEWS ARENA
BOSTON, MASSACHUSETTS

MASSDEP PHASE 1 SITE ASSESSMENT MAP

APPROXIMATE SCALE: AS SHOWN

APRIL 2024

FIGURE 3

APPENDIX A

Copies Of Release Abatement Measure (RAM) Transmittal Form (BWSC 106), Notices to Municipal Officials, and Certificate of Financial Assurance

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 106 12

Release Tracking Number
3 - 37948

RELEASE ABATEMENT MEASURE (RAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

A. SITE LOCATION:

1. Site Name/Location Aid: MATTHEWS ARENA
2. Street Address: 238-262 ST BOTOLPH STREET
3. City/Town: BOSTON 4. Zip Code: 021150000

☑ 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. List Submittal Date of Initial RAM Plan (if previously submitted): _____ (mm/dd/yyyy)

☑ 2. Submit an **Initial Release Abatement Measure (RAM) Plan**.

☐ a. Check here if the RAM is being conducted as part of the construction of a permanent structure. If checked, you must specify what type of permanent structure is to be erected in or in the immediate vicinity of the area where the RAM is to be conducted.

b. Specify type of permanent structure: (check all that apply) ☐ i. School ☐ ii. Residential ☐ iii. Commercial

☐ iv. Industrial ☐ v. Other Specify: _____

☐ 3. Submit a **Modified RAM Plan** for a previously submitted RAM Plan.

☐ 4. Submit a **RAM Status Report**.

☐ 5. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP, concurrent with a RAM Status Report.)

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

b. Frequency of Submittal:

☐ i. A Remedial Monitoring Report(s) submitted every six months, concurrent with a RAM Status Report.
☐ ii. A Remedial Monitoring Report(s) submitted annually, concurrent with a RAM Status Report.

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

A separate BWSC106A, RAM Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 6. Submit a **RAM Completion Statement**.

☐ 7. Submit a **Revised RAM Completion Statement**.

8. Provide Additional RTNs:

☐ a. Check here if this RAM Submittal covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here. This section is intended to allow a RAM to cover more than one unclassified RTN and not show permanent linkage to a Primary Tier Classified RTN.

b. Provide the additional Release Tracking Number(s) covered by this RAM Submittal. ☐ - ☐ ☐ - ☐

☐ 9. Include in the **RAM Plan** or **Modified RAM Plan** a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

(All sections of this transmittal form must be filled out unless otherwise noted above)

DRAFT COPY

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT RAM:

1. Media Impacted and Receptors Affected: (check all that apply)

☐ a. Paved Surface ☐ b. Basement ☐ c. School
☐ d. Public Water Supply ☐ e. Surface Water ☐ f. Zone 2 ☐ g. Private Well ☐ h. Residence ☑ i. Soil
☐ j. Ground Water ☐ k. Sediments ☐ l. Wetland ☐ m. Storm Drain ☐ n. Indoor Air ☐ o. Air
☐ p. Soil Gas ☐ q. Sub-Slab Soil Gas ☐ r. Critical Exposure Pathway ☐ s. NAPL ☐ t. Unknown
☐ u. Others Specify:

2. Sources of the Release or TOR: (check all that apply)

☐ a. Transformer ☐ b. Fuel Tank ☐ c. Pipe
☐ d. OHM Delivery ☐ e. AST ☐ f. Drums ☐ g. Tanker Truck ☐ h. Hose ☐ i. Line
☐ j. UST Describe: ☐ k. Vehicle ☐ l. Boat/Vessel
☐ m. Unknown ☑ n. Other: HISTORIC SITE USE AND URBAN FILL

3. Type of Release or TOR: (check all that apply)

☐ a. Dumping ☐ b. Fire ☐ c. AST Removal ☐ d. Overfill
☐ e. Rupture ☐ f. Vehicle Accident ☐ g. Leak ☐ h. Spill ☐ i. Test Failure ☐ j. TOR Only
☐ k. UST Removal Describe:
☐ l. Unknown ☑ m. Other: HISTORIC SITE USE AND URBAN FILL

4. Identify Oils and Hazardous Materials Released: (check all that apply)

☐ a. Oils ☐ b. Chlorinated Solvents
☑ c. Heavy Metals ☑ d. Others Specify: SVOCS, TPH, ASBESTOS CONTAINING MATERIAL

DRAFT COPY

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply, for volumes list cumulative amounts)

☐ 1. Assessment and/or Monitoring Only ☐ 2. Temporary Covers or Caps
☐ 3. Deployment of Absorbent or Containment Materials ☐ 4. Temporary Water Supplies
☐ 5. Structure Venting System/HVAC Modification System ☐ 6. Temporary Evacuation or Relocation of Residents
☐ 7. Product or NAPL Recovery ☐ 8. Fencing and Sign Posting
☐ 9. Groundwater Treatment Systems ☐ 10. Soil Vapor Extraction
☐ 11. Remedial Additives ☐ 12. Air Sparging
☐ 13. Active Exposure Pathway Mitigation System ☐ 14. Passive Exposure Pathway Mitigation System
☐ 15. Monitored Natural Attenuation ☐ 16. In-Situ Chemical Oxidation

D. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply, for volumes list cumulative amounts)

☑ 17. Excavation of Contaminated Soils

☑ a. Re-use, Recycling or Treatment ☑ i. On Site Estimated volume in cubic yards 300

☐ ii. Off Site Estimated volume in cubic yards

iia. Receiving Facility: Town: State:

iib. Receiving Facility: Town: State:

iii. Describe: TCLP LEAD TREATED SOILS

☐ b. Store ☐ i. On Site Estimated volume in cubic yards

☐ ii. Off Site Estimated volume in cubic yards

iia. Receiving Facility: Town: State:

iib. Receiving Facility: Town: State:

☑ c. Landfill ☐ i. Cover Estimated volume in cubic yards

Receiving Facility: Town: State:

☑ ii. Disposal Estimated volume in cubic yards 5000

Receiving Facility: TBD Town: TBD State: NY

☐ 18. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Receiving Facility: Town: State:

c. Receiving Facility: Town: State:

☐ 19. Removal of Other Contaminated Media:

a. Specify Type and Volume:

b. Receiving Facility: Town: State:

c. Receiving Facility: Town: State:

☐ 20. Other Response Actions:

Describe:

☐ 21. Use of Innovative Technologies:

Describe:

DRAFT COPY

E. 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 of this form indicates that a **Release Abatement Measure 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 of this form indicates that a **Release Abatement Measure Status Report** and/or **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;

> if Section B of this form indicates that a **Release Abatement Measure Completion Statement** 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:

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.

DRAFT COPY

1. LSP #: 6812
2. First Name: COLE E
3. Last Name: WORTHY
4. Telephone: 6178867341
5. Ext.:
6. Email: CWORTHY@HALEYALDRICH.COM
7. Signature:
8. Date: (mm/dd/yyyy)
9. LSP Stamp:

F. PERSON UNDERTAKING RAM:

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: NORTHEASTERN UNIVERSITY

3. Contact First Name: CATHERINE 4. Last Name: WALSH

5. Street: 360 HUNTINGTON AVE 6. Title: VP FACILITIES

7. City/Town: BOSTON 8. State: MA 9. ZIP Code: 021155005

10. Telephone: 7814055196 11. Ext.: 12. Email: C.WALSH@NORTHEASTERN.EDU

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING RAM:

☐ 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 RAM Specify Relationship:

H. REQUIRED ATTACHMENTS AND SUBMITTALS:

DRAFT COPY

☐ 1. Check here if any Remediation Waste, generated as a result of this RAM, will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement. You must submit a Phase IV Remedy Implementation Plan along with the appropriate transmittal form (BWSC 108).

☑ 2. 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.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of a Release Abatement Measure.

☐ 4. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to bwsc.edep@state.ma.us.

☐ 5. If a RAM Compliance Fee is required for this RAM, check here to certify that a RAM Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

☑ 6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

ATTACHMENT TO BWSC-106

Northeastern University- Matthew's Arena
Boston, Massachusetts
RTN 3-37948

H. REQUIRED ATTACHMENT AND SUBMITTALS

2. The Response Actions on which this opinion is based are subject to the following permits/ approvals:

   - A Non-Traditional Asbestos Abatement Work Plan, prepared by Woodard & Curran, Inc., and submitted to the Massachusetts Department of Environmental Protection (MassDEP) Bureau of Air and Waste (BAW).

3. The City of Boston Mayor's Office and Boston Public Health Commission were notified of the implementation of the RAM within 20 days prior to the implementation of the RAM Plan as required under 310 CMR 40.1403(3)(d)(2). Copies of these notices are included in Appendix A of the report to which this document is appended.

6. LSP Opinion: Cole E. Worthy is the LSP for the project. The LSP seal and signature are provided on the attached Transmittal Form BWSC-106. The attached RAM Plan document contains material facts, data, and other information that support the LSP Opinion that, to the best of the LSP's knowledge, information and belief, the response actions that are the subject of this submittal (i) have been developed in accordance with the applicable provisions of M.G.L.c.21E and 310 CMR 40.0000, (ii) are appropriate and reasonable to accomplish the purposes of such response action as set forth in the applicable provisions of M.G.L.c.21E and 310 CMR 40.0000, and (iii) comply with the identified provisions of all orders, permits, and approvals identified in this submittal.

I. CERTIFICATION OF PERSON UNDERTAKING RAM

Catherine Walsh is listed on the electronically submitted BWSC form as the person undertaking this regulatory action. Please note that Catherine Walsh is electronically signing the BWSC form as an Authorized Representative of Northeastern University and not individually.

HALEY & ALDRICH, INC.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

19 April 2024
File No. 134206-012

Office of the Mayor
One City Hall Square
Boston, Massachusetts 02201

Attention: Mayor Michelle Wu

Subject: Notice of Implementation – Release Abatement Measure Plan
Northeastern University – Matthew's Arena
Boston, Massachusetts
Release Tracking Number (RTN) 3-37948

Dear Mayor Wu:

On behalf of our client, Northeastern University, and in accordance with the provisions of the Massachusetts Contingency Plan (MCP) at 310 CMR 40.1403(3)(d), Haley & Aldrich, Inc. is providing this letter as notice that a Release Abatement Measure (RAM) Plan has been submitted to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced site. Pursuant to the MCP (310 CMR 40.0480), a Phase I Initial Site Investigation has been performed at this location.

The purpose of this RAM is to manage contaminated soil generated during construction enabling activities at the above referenced site. RAM activities are planned to begin in May 2024 and be completed in September 2024. Additional information is presented in our RAM Plan, which can be reviewed and copied at the Massachusetts Department of Environmental Protection Northeast Regional Office File Review Center, 150 Presidential Way, Woburn, Massachusetts, and can also be viewed online at http://public.dep.state.ma.us/wsc-viewer/.

Sincerely yours,
HALEY & ALDRICH, INC.

Cole E. Worthy, III, LSP
Senior Associate

c: City of Boston Public Health Commission; Attn: Dr. Bisola Ojikutu

https://haleyaldrich.sharepoint.com/sites/NortheasternUniversity/Shared Documents/134206.New Arena/012 - New Arena-After SD/Deliverables/2024-03-MCP-RAM Summer 2024/Appendix A- BWSC 106, Notification Letters/Mayor Notification-RAM_F.docx

HALEY & ALDRICH, INC.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

19 April 2024
File No. 134206-012

City of Boston Public Health Commission
1010 Massachusetts Avenue, 6th Floor
Boston, Massachusetts 02118

Attention: Dr. Bisola Ojikutu, Executive Director

Subject: Notice of Implementation – Release Abatement Measure Plan
Northeastern University – Matthews Arena
Boston, Massachusetts
Release Tracking Number (RTN) 3-37948

Dear Dr. Ojikutu:

On behalf of our client, Northeastern University, and in accordance with the provisions of the Massachusetts Contingency Plan (MCP) at 310 CMR 40.1403(3)(d), Haley & Aldrich, Inc. is providing this letter as notice that a Release Abatement Measure (RAM) Plan has been submitted to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced site. Pursuant to the MCP (310 CMR 40.0480), a Phase I Initial Site Investigation has been performed at this location.

The purpose of this RAM is to manage contaminated soil generated during construction enabling activities at the above referenced site. RAM activities are planned to begin in May 2024 and be completed in September 2024. Additional information is presented in our RAM Plan, which can be reviewed and copied at the Massachusetts Department of Environmental Protection Northeast Regional Office File Review Center, 150 Presidential Way, Woburn, Massachusetts, and can also be viewed online at http://public.dep.state.ma.us/wsc-viewer/.

Sincerely yours,
HALEY & ALDRICH, INC.

Cole E. Worthy, III, LSP
Senior Associate

c: City of Boston Mayor's Office; Attn: Mayor Michelle Wu

https://haleyaldrich.sharepoint.com/sites/NortheasternUniversity/Shared Documents/134206.New Arena/012 - New Arena-After SD/Deliverables/2024-03-MCP-RAM Summer 2024/Appendix A- BWSC 106, Notification Letters/Public Health Notification-RAM_F.docx

CERTIFICATION OF FINANCIAL ASSURANCE
310 CMR 40.0442(5)

Multi-purpose Arena
Northeastern University
Boston, Massachusetts
RTNs 3-37948

I, Catherine Walsh, on behalf of Northeastern University, attest that based on my inquiry of those individuals immediately responsible for providing estimates of the volume of material to be excavated and the cost associated with the work to be completed, that the person/entity undertaking the Release Abatement Measure has sufficient financial resources to manage the excavated materials in the manner and timeframe specified at 310 CMR 40.0030, and that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal.

Northeastern University
By:

Name: Catherine Walsh

Title: AVP Admin and Finance, PREF

Date: April 17, 2024

APPENDIX B
Exploration Logs

GEOPROBE REPORT

Boring No. HA24-A1

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.0 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		G	-	Rig Make & Model: Geoprobe 6620DT
Inside Diameter (in.)		1.5	-	Bit Type: Geoprobe Spoon
Hammer Weight (lb)		AUTO	-	Drill Mud: None
Hammer Fall (in.)		-	-	Casing: Push
				Hoist/Hammer: / Automatic Hammer
				PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 39	0.0 5.0		SM	16.8 0.2	-ASPHALT- Brown to gray silty SAND (SM), no structure, no odor, dry to moist, trace brick, ash, asphalt, and concrete - FILL - Note: Solid brick.	5	5	15	20	40	15				
5	PUSH	G2 43	5.0 10.0	0.0/0.0	SM		Note: Solid brick and condensed ash. Light brown silty SAND with gravel (SM), no odor, moist, infrequent 2 in. pockets of ash, trace brick, concrete, and asphalt, rope-like material	5	10	15	20	35	15				
10				0.0/0.0		7.0 10.0	BOTTOM OF EXPLORATION 10.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	10
Rock Cored (ft)	0.0
Samples	G2

Boring No. HA24-A1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. HA24-A3

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.5 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test: Dilatancy	Toughness	Plasticity	Strength
0						17.3	-ASPHALT-										
	PUSH	G1 29	0.0 5.0		SM	0.2	Brown to gray silty SAND (SM), no structure, no odor, dry to moist, trace brick, ash, and asphalt	5	5	15	20	40	15				
					SM		Tan silty SAND (SM), no structure, dry to moist	0	0	0	0	85	15				
					CL	13.5 4.0	Gray-brown lean CLAY (CL), no structure, no odor, dry	0	0	0	0	10	90				
5	PUSH	G2 28	5.0 10.0	0.0/0.0			-FILL-										
					SP	9.5 8.0	Gray poorly-graded SAND (SP), no structure, dry, 40% ash and fire debris, 10% brick, trace concrete	5	5	15	10	60	5				
					SM		Tan silty SAND with gravel (SM), no structure, no odor, dry	5	10	15	20	35	15				
10	PUSH	G3 60	10.0 15.0	0.0/0.0	SC	7.5 10.0	Brown clayey SAND with gravel (SC), no structure, no odor, dry to moist, 20% brick, trace ash, concrete, and asphalt	5	10	10	15	40	20				
					SW-SP	6.0 11.5	Brown well-graded SAND with silt and gravel (SW-SP), no structure, moist, infrequent 1 in. pockets of varved silt	15	15	20	20	20	10				
							-FILL-										
					SW-SP		Gray well-graded SAND with silt and gravel (SW-SP), no structure, no odor, wet	15	15	20	20	20	10				
15				0.0/0.0		2.5 15.0	BOTTOM OF EXPLORATION 15.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	15
Rock Cored (ft)	0.0
Samples	G3

Boring No. HA24-A3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. HA24-A4

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.5 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 34	0.0 5.0		SM	17.3 0.2	-ASPHALT- Dark brown silty SAND (SM), no odor, dry, trace ash and asphalt	5	5	15	20	40	15				
					SP		Tan poorly-graded SAND (SP), no structure, no odor, dry, 10% brick - FILL -	5	5	0	5	80	5				
5	PUSH	G2	5.0 10.0	0.0/0.0	SM		Light brown silty SAND (SM), no odor, moist, infrequent 2 in. pockets of ash, trace brick, concrete, and asphalt	5	5	10	20	30	30				
					GP	8.5 9.0	Gray poorly-graded GRAVEL with sand (GP), no odor, dry.	10	40	20	20	5	5				
10				0.0/0.0		7.5 10.0	- FILL - BOTTOM OF EXPLORATION 10.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	10
Rock Cored (ft)	0.0
Samples	G2

Boring No. HA24-A4

Field Tests:

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. HA24-B3

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.0 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Toughness	Plasticity	Strength
0	PUSH	G1 48	0.0 5.0		SM	16.8 0.2	-ASPHALT- Dark brown silty SAND (SM), no odor, dry, trace ash and asphalt	5	5	15	20	40	15				
					SM		Light brown silty SAND (SM), no odor, moist, trace brick, concrete, and asphalt	5	5	10	20	30	30				
					SM		Red silty SAND with gravel (SM), no odor, dry, 15% red brick dust, 2 in. pocket of ash at 3.5 ft	5	10	5	5	60	15				
							-FILL- Note: Entire brick.										
5	PUSH	G2 48	5.0 10.0	0.0/0.0	SM		Light brown silty SAND (SM), no odor, moist, trace brick, concrete, and asphalt Note: Solid brick, brick fragments, and brick dust.	5	5	10	20	30	30				
					SM		Brown silty SAND with gravel (SM), no structure, no odor, dry, 10% brick, 15% concrete, trace ash, cinders, and glass	10	10	10	20	35	15				
10	PUSH	G3 36	10.0 15.0	0.0/0.0	SM		Tan to gray silty SAND with gravel (SM), no structure, no odor, dry, trace ash, brick, and concrete	5	10	15	20	35	15				
15				0.0/0.0		2.0 15.0	BOTTOM OF EXPLORATION 15.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	15
Rock Cored (ft)	0.0
Samples	G3

Boring No. HA24-B3

Field Tests:

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. HA24-B4

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	26 Dec 2023
Finish	26 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.0 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		G	-	Rig Make & Model: Geoprobe 6620DT
Inside Diameter (in.)		1.5	-	Bit Type: Geoprobe Spoon
Hammer Weight (lb)		AUTO	-	Drill Mud: None
Hammer Fall (in.)		-	-	Casing: Push
				Hoist/Hammer: / Automatic Hammer
				PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test: Dilatancy	Toughness	Plasticity	Strength
0	PUSH	G1 34	0.0 5.0		SM	16.8 0.2	-ASPHALT-										
							Brown silty SAND (SM), no structure, no odor, dry, trace asphalt	0	5	15	20	45	15				
					SP		Tan poorly-graded SAND (SP), no structure, no odor, dry	0	0	5	5	85	5				
5	PUSH	G2 33	5.0 10.0	0.0/0.0			-FILL-										
					SM		Brown silty SAND with gravel (SM), no structure, no odor, dry, 10% brick, 15% concrete, trace ash, cinders, and glass	10	10	10	20	35	15				
10				0.0/0.0													
					SW	3.5 13.5	Brown well-graded SAND with gravel (SW), no structure, no odor, moist	15	20	20	20	20	5				
					OL/OH	2.8 14.2	Gray and black ORGANIC SOIL (OL/OH), varved, petroleum-like odor, moist, clay with 10% organic fibers, black alteration in varves	0	0	0	0	0	100				
15				0.0/0.5		2.0 15.0	- ORGANIC DEPOSITS -										
							BOTTOM OF EXPLORATION 15.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	15
Rock Cored (ft)	0.0
Samples	G3

Boring No. HA24-B4

Field Tests:

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. A4-TCLP-E1

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.0 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	P U S H	G1 36	0.0 5.0		SM	16.8 0.2	-ASPHALT- Dark brown silty SAND (SM), no odor, dry, trace ash and asphalt - FILL -	5	5	15	20	40	15				
					SM		Brown silty SAND (SM), no structure, no odor, dry, trace ash, cinders, and brick, full bricks and concrete pieces at 5 ft	0	5	15	20	45	15				
5				0.0/0.0		12.0 5.0	BOTTOM OF EXPLORATION 5.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	5
Rock Cored (ft)	0.0
Samples	G1

Boring No. A4-TCLP-E1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. A4-TCLP-E2

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.0 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	P U S H	G1 30	0.0 5.0		SM	16.8 0.2	-ASPHALT- Dark brown silty SAND (SM), no odor, dry, trace ash and asphalt - FILL -	5	5	15	20	40	15				
					SM		Brown silty SAND (SM), no structure, no odor, dry, trace ash, cinders, and brick	0	5	15	20	45	15				
					SM		Light brown silty SAND (SM), no odor, moist, trace ash, brick, concrete, and asphalt, silt and clay fines, full brick at 5 ft	5	5	10	20	30	30				
5				0.0/0.0		12.0 5.0	BOTTOM OF EXPLORATION 5.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	5
Rock Cored (ft)	0.0
Samples	G1

Boring No. A4-TCLP-E2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. A4-TCLP-N1

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	26 Dec 2023
Finish	26 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.5 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	P U S H	G1 40	0.0 5.0		SM	17.3 0.2	-ASPHALT- Brown silty SAND (SM), no structure, no odor, dry, 30% brick, 10% ash and cinders, trace asphalt and concrete - FILL -	0	5	15	20	45	15				
5				0.0/0.0		12.5 5.0	BOTTOM OF EXPLORATION 5.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	5
Rock Cored (ft)	0.0
Samples	G1

Boring No. A4-TCLP-N1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. A4-TCLP-N2

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	26 Dec 2023
Finish	26 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.5 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 11.8 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	P U S H	G1 41	0.0 5.0		SM	17.3 0.2	-ASPHALT- Brown silty SAND (SM), no structure, no odor, dry, 30% brick, 10% ash, trace concrete and asphalt - FILL -	0	5	15	20	45	15				
5				0.0/0.0		12.5 5.0	BOTTOM OF EXPLORATION 5.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	5
Rock Cored (ft)	0.0
Samples	G1

Boring No. A4-TCLP-N2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. A4-TCLP-S1

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.5 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	P U S H	G1 38	0.0 5.0		SM	17.3 0.2	-ASPHALT- Dark brown silty SAND (SM), no odor, dry, trace ash and asphalt - FILL -	5	5	15	20	40	15				
					SM		Brown silty SAND (SM), no structure, no odor, dry, trace ash, cinders, and brick	0	5	15	20	45	15				
					SM		Light brown silty SAND (SM), no odor, moist, trace ash, brick, concrete, and asphalt	5	5	10	20	30	30				
5				0.0/0.0		12.5 5.0	BOTTOM OF EXPLORATION 5.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	5
Rock Cored (ft)	0.0
Samples	G1

Boring No. A4-TCLP-S1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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GEOPROBE REPORT

Boring No. A4-TCLP-W1

Project	MULTI-PURPOSE ARENA, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	GEOLOGIC EARTH EXPLORATIONS INC.

File No.	134206-012
Sheet No.	1 of 1
Start	27 Dec 2023
Finish	27 Dec 2023
Driller	D. Jacobs
H&A Rep.	F. Tierney
Elevation	17.5 (est.)
Datum	Boston City Base
Location	See Plan

	Casing	Sampler	Barrel
Type		G	-
Inside Diameter (in.)		1.5	-
Hammer Weight (lb)		AUTO	-
Hammer Fall (in.)		-	-

Drilling Equipment and Procedures

Rig Make & Model: Geoprobe 6620DT
Bit Type: Geoprobe Spoon
Drill Mud: None
Casing: Push
Hoist/Hammer: / Automatic Hammer
PID Make & Model: Tiger 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME & SYMBOL, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Toughness	Plasticity	Strength
0						17.3	-ASPHALT-										
	P U S H	G1 33	0.0 5.0		SM	0.2	Dark brown silty SAND (SM), no odor, dry, trace ash and asphalt	5	5	15	20	40	15				
							- FILL -										
					SM		Brown silty SAND (SM), no structure, no odor, dry, 10% brick, 10% ash and cinders, trace asphalt and glass	0	5	15	20	45	15				
5				0.0/0.0		12.5 5.0	BOTTOM OF EXPLORATION 5.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	5
Rock Cored (ft)	0.0
Samples	G1

Boring No. A4-TCLP-W1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA24-TP1

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	26 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	50s, Sunny
Equipment Used	CAT317F		

Ground El.: 16.0 **El. Datum:** BCB | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		15.6		-ASPHALT-										
		0.4	SM	Dark brown silty SAND with gravel (SM), MPS 7 in., no structure no odor, moist, contains brick, ash, cinders, clinkers, concrete, wood, pockets of cohesive fill PID = 0 ppm	5	10	10	15	30	30				
2			SM	Dark brown silty SAND with gravel (SM), MPS 7 in., no structure no odor, moist, contains brick, ash, cinders, clinkers, concrete, wood Note: Encountered 8-in. concrete slab on west end of excavation at a depth of 0.8 ft, see attached sketch. PID = 0 ppm	5	10	10	15	30	30				
4														
			SP	Tan poorly graded SAND with gravel (SP), MPS 4 in., no structure, no odor, moist PID = 0 ppm	5	10	15	25	40	5				
6				-FILL-										
8														
10		6.0 10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: Slab

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	0	= 0
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 9.5 x 6.5
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA24-TP2

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	26 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	50s, Sunny
Equipment Used	CAT317F		

Ground El.: 16.0 **El. Datum:** BCB | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		15.6		-ASPHALT-										
		0.4	SM	Tan silty SAND with gravel (SM), MPS 8 in., no structure no odor, moist, contains trace metal fragments, pockets of cohesive fill and poorly graded sand PID = 0.0 ppm	5	10	15	20	30	20				
2	HA24-TP2_0-5 0.0 - 5.0		SM	Dark brown silty SAND with gravel (SM), MPS 8 in., no structure no odor, moist, contains brick, ash, cinders, clinkers, concrete, wood, glass, building debris, and miscellaneous trash, pockets of cohesive fill and poorly graded sand	5	10	10	15	30	30				
4														
6				-FILL-										
	HA24-TP2_5-10 5.0 - 10.0													
8				Note: Encountered concrete encased sewer line at 8.0 ft on east end of excavation, see attached sketch. PID = 0.0 ppm										
10		6.0 10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: Brick wall, sewer line

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number		Approx. Vol. (cu.ft)
12 to 24	0	=	0
over 24	0	=	0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 23.1 x 6.1
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

HALEY ALDRICH

Test Pit No. HA24-TP3

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	26 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	50s, Sunny
Equipment Used	CAT317F		

Ground El.: 15.5 **El. Datum:** BCB | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0				-ASPHALT-										
		14.9 / 0.6	SM	Tan silty SAND with gravel (SM), MPS 8 in., no structure no odor, moist, contains trace brick, pockets of cohesive fill and poorly graded sand PID = 0.0 ppm	5	10	15	20	30	20				
2			SM	Dark brown silty SAND with gravel (SM), MPS 8 in., no structure no odor, moist, contains brick, metal fragments, wire, porcelain, ash, cinders, clinkers, concrete, wood, glass, building debris, and miscellaneous trash, pockets of cohesive fill and poorly graded sand PID = 0.0 ppm	5	10	10	15	30	30				
4														
6				-FILL-										
8				Note: Encountered concrete encased sewer line at 8.0 ft in east end of excavation, similar to HA24-TP2.										
10		5.5 / 10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: Sewer line

Remarks:

Field Tests

Dilatancy R - Rapid S - Slow N - None
Toughness L - Low M - Medium H - High
Plasticity N - Nonplastic L - Low M - Medium H - High
Dry Strength N - None L - Low M - Medium H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	0	= 0
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 19.8 x 6.2
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA24-TP4

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	27 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	40s, Overcast
Equipment Used	CAT317F		

Ground El.: 16.0 **El. Datum:** BCB | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		15.7		-ASPHALT-										
		0.3	SM	Tan silty SAND with gravel (SM), MPS 7 in., no structure no odor, moist, pockets of cohesive fill and poorly graded sand, contains metal, porcelain, wire, asphalt, and concrete fragments PID = 0.0 ppm	5	10	15	20	30	20				
2			CL	Tan and gray sandy CLAY with gravel (CL), MPS 3 in., no structure no odor, moist, contains metal, porcelain, wire, asphalt, and concrete fragments, large pockets/layers of poorly graded sand PID = 0.0 ppm	5	5	10	10	20	50				
4			SM	Dark Brown silty SAND with gravel (SM), MPS 10 in., no structure no odor, moist, contains brick, metal fragments, wire, poreclain, ash, cinders, clinkers, concrete, wood, glass, building debris, and miscellaneous trash, pockets of cohesive fill and poorly graded sand Note: Abundant building debris encountered in west end of excavation. PID = 0.0 ppm	5	10	15	20	30	20				
6			SP- SM	Tan poorly-graded SAND with silt (SP-SM), MPS 7 in., no structure no odor, moist, contains trace brick -FILL- PID = 0.0 ppm	10	10	15	20	35	10				
8				Note: Encountered concrete encased sewer line at 8.9 ft on east end of excavation, similar to HA24-TP2.										
10		6.0 10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: Sewer line

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	0	= 0
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 18.2 x 5.7
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

HALEY ALDRICH

Test Pit No. HA24-TP5

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	27 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	40s, Overcast
Equipment Used	CAT317F		

Ground El.: 17.0 **El. Datum:** BCB **Location:** See Plan **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		16.7		-ASPHALT-										
		0.3	SP- SM	Tan poorly graded SAND with silt and gravel (SP-SM), MPS 4 in., no structure no odor, moist, contains brick and wood, pockets of cohesive fill and poorly graded sand	5	10	15	25	35	10				
2														
				Note: Encountered concrete structure at 3.2 ft in west end of excavation, see attached sketch.										
			SM	Dark Brown silty SAND with gravel (SM), MPS 11 in., no structure, no odor, moist, contains brick, metal fragments, wire, poreclain, ash, cinders, clinkers, concrete, wood, glass, building debris, miscellaneous trash, pockets of cohesive fill and poorly graded sand	5	10	15	20	30	20				
4				-FILL-										
6														
8														
				Note: Encountered concrete encased sewer line at 9.5 ft in east end of excavation, see attached sketch.										
10		7.0												
		10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: Sewer line

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number		Approx. Vol. (cu.ft)
12 to 24	0	=	0
over 24	0	=	0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 20.5 x 6.2
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA24-TP6

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	27 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	40s, Overcast
Equipment Used	CAT317F		

Ground El.: 18.0 **El. Datum:** BCB | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		17.7		-ASPHALT-										
		0.3		-CRUSHED STONE- Note: Variable thickness across test pit.										
1		16.9 1.1	SM	Black to dark brown silty SAND with gravel (SM), MPS 11 in., no structure no odor, moist, contains brick, ash, cinder, clinkers, pockets of cohesive fill and poorly graded sand, large pockets/layers of gray to gray-brown lean clay	5	10	15	20	30	20				
2				Note: Encountered concrete structure at 6 in. bgs in southwest corner of excavation. Two utilities were encountered at 4.9 ft bgs, see attached sketch.										
3				-FILL- PID = 0.0 ppm										
4														
5														
6				Note: Encountered concrete slab at 6.7 ft bgs, see attached sketch.										
		11.3 6.7		BOTTOM OF EXPLORATION 6.7 FT										

Obstructions: Concrete, two utilities, slab

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	0	= 0
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 9.6 x 8.1
Pit Depth (ft) 6.7

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

HALEY ALDRICH

Test Pit No. HA24-TP7

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	28 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	40s, Rain
Equipment Used	CAT317F		

Ground El.: 18.0 **El. Datum:** BCB | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		17.7		-ASPHALT-										
		0.3	SM	Tan to brown silty SAND with gravel (SM), MPS 8 in., no structure no odor, moist, contains 5% or less of roots, brick, porcleain, tile, clinker, concrete, pockets of poorly graded sand	5	10	15	20	30	20				
2														
4														
			SM	Dark brown silty SAND with gravel (SM), MPS 6 in., no structure, no odor, moist, contains small and large roots	5	10	15	15	25	30				
				-FILL-										
6														
8			SP- SM	Tan to light brown poorly graded SAND with silt (SP-SM), MPS 9 in., no structure, no odor, moist		10	15	30	35	10				
10		8.0												
		10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: N/A

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	0	= 0
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 8.9 x 6.5
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

HALEY ALDRICH

Test Pit No. HA24-TP8

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	28 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	40s, Rain
Equipment Used	CAT317F		

Ground El.: 19.5 **El. Datum:** BCB | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0				-ASPHALT-										
		18.9 / 0.6	SM	Dark brown silty SAND with gravel (SM), MPS 6 in., no structure, no odor, moist, contains small and large roots	5	10	15	15	25	30				
2			SM	Tan to light brown silty SAND with gravel (SM), MPS 8 in., no structure, no odor, moist, contains trace brick fragments, concrete fragments	5	10	15	20	30	20				
4														
6														
8			SM	Brown silty SAND with gravel (SM), MPS 10 in., no structure no odor, moist, contains brick, porcelain, tile, clinkers, concrete, and clay pipe fragments, pocket of cohesive fill, mottled brown, gray, black lean clay at 12 ft	5	10	15	15	25	30				
10				-FILL-										
12														
		6.6 / 12.9	SP- SM	Tan to light brown poorly graded SAND with silt and gravel (SP-SM), MPS 5 in., no structure, no odor, moist	5	10	15	25	35	10				
				BOTTOM OF EXPLORATION 12.9 FT										

Obstructions: N/A

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	0	= 0
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 5 x 7.9
Pit Depth (ft) 12.9

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA24-TP9

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	A. Midgley
Client	NORTHEASTERN UNIVERSITY	**Date**	28 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	40s, Rain
Equipment Used	CAT317F		

Ground El.: 21.5 **El. Datum:** BCB **Location:** See Plan **Groundwater depths/entry rates (in./min.):** N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		21.2		-ASPHALT-										
		0.3		-CRUSHED STONE-										
		21.0	SM	Black silty SAND with gravel (SM), MPS 4 in., no structure no odor, moist, contains ash, cinders, coal, and trace brick		10	20	20	30	20				
		0.5	SM	Brown to dark brown silty SAND with gravel (SM), MPS 6 in., no structure, no odor, moist, contains brick, clinkers, roots, coal, cinders, ash, wire, concrete, glass, pockets of ash and cinders, pockets of cohesive fill	5	10	15	20	25	25				
2														
4														
6														
8			SM	Tan to light brown silty SAND with gravel (SM), MPS 4 in., no structure, no odor, moist, contains trace shells	5	10	10	30	30	15				
				-FILL-										
10														
		11.0												
		10.5		BOTTOM OF EXPLORATION 10.5 FT										

Obstructions: N/A

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after - hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	0	= 0
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 8.6 x 7.6
Pit Depth (ft) 10.5

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA23-TP10

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	J. Bitney
Client	NORTHEASTERN UNIVERSITY	**Date**	20 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	Clear, 30s
Equipment Used	Green Machine Electric Mini-Excavator		

Ground El.: 11.6 **El. Datum:** BCB **Location:** See Plan **Groundwater depths/entry rates (in./min.):**

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0				-CONCRETE SLAB-										
		11.1 0.5	SP	Brown poorly-graded SAND with gravel (SP), trace oversize, mps= 5 in., no structure, no odor, moist, pockets of light brown poorly-graded sand, trace organics, asphalt, shells, brick, mortar, and coal	10	15	15	20	30	10				
1				-FILL- PID = 0.1 ppm										
2														
3														
4														
5		6.6 5.0		BOTTOM OF EXPLORATION 5.0 FT										

Obstructions:

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth ft
measured after hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24		=
over 24		=

Test Pit Dimensions (ft)

Pit Length x Width (ft) 3.5 x 2.0
Pit Depth (ft) 5.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA23-TP11

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	J. Bitney
Client	NORTHEASTERN UNIVERSITY	**Date**	19 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	Partly cloudy, 40s
Equipment Used	Green Machine Electric Mini-Excavator		

Ground El.: 11.6 **El. Datum:** BCB **Location:** See Plan **Groundwater depths/entry rates (in./min.):**

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0				-CONCRETE SLAB-										
		10.8 / 0.8	SM	Dark brown silty SAND with gravel (SM), 5% oversized, mps= 11 in., no structure, no odor, moist, trace brick, organics, mortar, asphalt, black fibrous material (fabric), and coal	10	15	15	20	25	15				
1			SP- SM	-FILL- PID = 0.3 ppm Brown poorly-graded SAND with silt and gravel (SP-SM), 5% oversize, mps= 9 in., no structure, no odor, moist, trace brick, coal, and pockets of poorly-graded sand PID = 0.2 ppm	10	15	15	20	30	10				
2														
3														
4														
5		6.6 / 5.0		BOTTOM OF EXPLORATION 5.0 FT										

Obstructions:

Remarks:

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth ft
measured after hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24		=
over 24		=

Test Pit Dimensions (ft)

Pit Length x Width (ft) 5 x 2.5
Pit Depth (ft) 5.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA23-TP12

Project	MULTI-PURPOSE ARENA	**File No.**	0134206-012
Location	BOSTON, MA	**H&A Rep**	J. Bitney
Client	NORTHEASTERN UNIVERSITY	**Date**	19 Dec 2023
Contractor	JAMES W. FLETT CO., INC.	**Weather**	Partly cloudy, 40s
Equipment Used	Green Machine Electric Mini-Excavator		

Ground El.: 11.6 **El. Datum:** BCB **Location:** See Plan **Groundwater depths/entry rates (in./min.):**

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0				-CONCRETE SLAB-										
		10.9 0.7	SM	Dark brown silty SAND with gravel (SM), 5% oversize, mps= 9 in., no structure, no odor, moist, 15% debris including trace brick, mortar, glass, concrete, metal, coal, black fibrous material, and pockets of organics -FILL- Note: Water proofing observed immediately beneath concrete.	10	15	10	20	30	15				
1														
2														
3			SM	Dark brown silty SAND with gravel (SM), 5% oversize, mps= 8 in., no structure, no odor, moist, trace porcelain, coal, pockets of organics, and brown coating material Note: Encountered concrete structure on north portion of excavation at a depth of 3.0 ft, see attached sketch.										
4		7.5 4.1		BOTTOM OF EXPLORATION 4.1 FT										

Obstructions: Footing on north side of test pit

Remarks: Footing found on north side of test pit at 3.0 ft. Test pit terminated to avoid undermining utility.

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth ft
measured after hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24		=
over 24		=

Test Pit Dimensions (ft)

Pit Length x Width (ft) 5 x 2.5
Pit Depth (ft) 4.1

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B1

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	

File No.	134206-007
Sheet No.	1 of 7
Start	July 6, 2022
Finish	August 18, 2022
Driller	D. Sheldon
H&A Rep.	M. Dodson
Elevation	11.1 (est.)
Datum	Boston City Base
Location	N 488897.1728 E 712149.9247

	Casing	Sampler	Barrel
Type	HW, NW	S	NX
Inside Diameter (in.)	4, 3	1.4	2.0
Hammer Weight (lb)	140	140	-
Hammer Fall (in.)	30	30	-

Drilling Equipment and Procedures

Rig Make & Model: ACKER B-61 TRACK
Bit Type: Roller Bit
Drill Mud: None
Casing: Driven
Hoist/Hammer: Winch / Automatic hammer
PID Make & Model: MiniRAE 3000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						10.4	-REINFORCED CONCRETE-										
					SP	0.7	Light-brown poorly-graded SAND (SP), no odor, moist to dry Note: Difficult to discern due to rebar obstructions in slab, narrow exploration. Note: PID Readings are presented as background screening reading over soil sample headspace Reading. - FILL - Note: Advanced borehole with vacuum excavation to 5.0 ft to clear utilities.			5	30	60	5				
5	12 12 16 20	S1 6	5.0 7.0	0.0/0.0	SW	6.1 5.0	Medium dense gray to brown well-graded SAND (SW), no structure, chemical-like odor, 40% wood shavings/fibers, creosote-like odor		5	30	35	25	5				
	18 14 12 12	S2 19	7.0 9.0		SW		Medium dense gray well-graded SAND with gravel (SW), no structure, no odor, wet Note: Drill action indicates wood debris from 5 to 9 ft, likely cause of poor recoveries.	15	5	10	35	30	5				
10	17 7 3 1	S3 2	9.0 11.0	0.0/0.7 0.0/0.0			Loose light-brown 100% wood splinters/fibers Note: well installed to 11.0 ft but was later damaged and filled with concrete.										
						0.1 11.0	- FILL -										
	1 2 2 3	S4 24	11.0 13.0	0.0/1.5	OL/OH		Soft gray-brown to black ORGANIC SOIL (OL/OH), no structure, organic odor, wet, 20% peat fibers - ORGANIC DEPOSITS -					5	95				
15	3 1 2 2	S5 3	14.0 16.0	0.0/0.3	OL/OH		Soft gray-brown ORGANIC SOIL (OL/OH), no structure, strong odor, wet, poor recovery of wash			5		5	90				
		U1 24	16.0 18.0				Note: collected shelby tube sample 16.0 to 18.0 ft. Note: collected undisturbed tube sample 16-18 ft										
	1 0 1 1	S6 24	18.0 20.0	0.0/59.2	PT	-6.9 18.0	Very soft gray-brown PEAT (PT), no structure, strong rotten sulfuric-like odor, wet, 30% organic soil										
20						-8.9											

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/18/22	15:26	3.0	well at	11.0	6.2

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe
GB - Grab Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	164.0
Rock Cored (ft)	20.0
Samples	S21, C4

Boring No. HA22-B1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Plasticity**: N - Nonplastic L - Low M - Medium H - High
Toughness: L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B1
File No. 134206-007
Sheet No. 2 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	0 0 0 2	S7 13	20.0 22.0	0.0/78.7	OL/OH	20.0	Very soft dark brown to black ORGANIC SOIL (OL/OH), no structure, organic odor, wet					10	90				
	2 3 15 14	S8 8	22.0 24.0	0.0/33.8		-11.9 23.0	Note: recovered no organic soil but blow counts indicate change ar 23.0 ft										
25	6 9 12 15	S9 3	24.0 26.0	0.0/3.5	CL		Very stiff gray-brown lean CLAY (CL), no structure, no odor, wet - MARINE DEPOSITS -		5				95				
30	7 8 9 9	S10 10	29.0 31.0	0.0/0.0	CL		Very stiff gray-brown to light-brown lean CLAY (CL), blocky structure, no odor, wet, gravel likely the reason for poor recovery	5					95				
35	1 2 2 5	S11	34.0 36.0		CL		Soft gray-brown lean CLAY (CL), blocky structure, no odor, wet, frequent irregular fine sand and silt partings/seams					5	95				
40	5 3 2 2	S12 20	39.0 41.0		CL		Medium stiff gray-brown lean CLAY with sand (CL), no odor, moist, 35% sandy silt in layers, seams and partings					15	85				
45																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B1

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B1

File No. 134206-007

Sheet No. 3 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50																	
55																	
	9 9 9 10	S13 3	59.0 61.0		CL		Very stiff gray-brown lean CLAY (CL), parting, no odor, wet, poor recovery										
60																	
65																	
70																	
75																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B1

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B1

File No. 134206-007

Sheet No. 4 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80	0 1 3 5	S14 24	79.0 81.0		CL		Soft gray lean CLAY (CL), laminae, no odor, wet						100				
85																	
90																	
95																	
100	0 1 3 5	S15 24	99.0 101.0		CL		Similar to above										
105																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B1

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B1

File No. 134206-007

Sheet No. 5 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110																	
115																	
120	0 0 0 0	S16 24	119.0 121.0		CL		Very soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
125																	
130																	
135																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B1

H&A-TEST BORING WITH PERM PID COLUMN PLOG-HA-LIB09-BOS STANDARD ONLY - COPY.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 28, 22

TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B1
File No. 134206-007
Sheet No. 6 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
140	0 1 4 5	S17 24	139.0 141.0		CL		Similar to above, except medium stiff						100				
145							Note: drilling resistance increase and choppy drill action indicates till or glaciomarine deposits, very slight water loss.										
						-136.9 148.0											
150	7 3 18 55	S18 3	149.0 151.0		SM		Dense gray to gray-brown (SM), no structure, no odor, wet, weakly bonded, fines slightly elastic, transitional layer to rock Note: Drill action indicates occasional small cobbles 147 to 152 ft, some water loss. - GLACIAL TILL -	15	10	10	15	30	20				
						-140.9 152.0	-DRILL ACTION INDICATES TOP OF BEDROCK 152.0 FT										
155	40 90 100/4"	S19 14	154.0 155.3				Olive-gray to gray-brown distinct rock fabric, wet, visible conglomerate structure, multiple colors present Recovery intact as a stick of decomposed rock crushable with moderate to firm finger pressure. - WEATHERED BEDROCK -										
						-145.9 157.0											
160	100/1"	S20 1	159.0 159.1				Similar to above, except low recovery, less weathered, and more difficult to break/crush by hand. - WEATHERED BEDROCK -										
165							SEE CORE BORING REPORT FOR ROCK DETAILS										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B1

H&A-TEST BORING WITH PERM PID COLUMN PLOG-HA-LIB09-BOS STANDARD ONLY - COPY.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 28, 22

CORE BORING REPORT

HALEY ALDRICH

Boring No. HA22-B1
File No. 134206-007
Sheet No. 7 of 7

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
	4	C1	164.0 169.0	57.0 44.0	95 73	Fresh	-152.9 164.0	Hard, fresh to slightly weathered, gray, fine grained to medium grained, ARGILLITE. No visible bedding or foliation. - BEDROCK - Primary joint set, low angle, close to moderate, rough, fresh to discolored weathering, fractured zones 166.2-166.5 and 166.9-167.1. Secondary joint set, moderately dipping, wide, rough, fresh weathering, secondary set may indicate foliation or massive bedding.
165	5.5							
	4.5							
	4.5							
	7							
	4.5	C2	169.0 174.0	57.0 37.0	95 62	Slight		Hard, slightly weathered, gray, aphanitic to medium grained, ARGILLITE. Similar to above, possible moderate angle foliation indicated by low to moderate joints and breaks. Primary joint set, low angle, very close to moderate, rough, fresh to discolored weathering, variable low to more moderate angles similar to both joint sets above.
170	7							
	3							
	4							
	4							
	4	C3	174.0 179.0	57.0 44.0	95 73	Fresh		Hard, fresh to slightly weathered, gray, aphanitic, ARGILLITE. Probable weak bedding/foliation along quartzite seams below approximately 176.5 ft. Primary joint set, low angle, close to wide, rough, fresh to discolored weathering, highly fractured zone along vertical undulating joint.
175	4							
	4.5							
	4.5							
	5							
		C4	179.0 184.0	57.0 49.0	95 82	Slight		Hard to medium, slightly weathered, gray, aphanitic, ARGILLITE. Primary joint set, moderately dipping, close to moderate, frequent planar breaks along bedding planes.
180								- BEDROCK -
							-172.9 184.0	BOTTOM OF EXPLORATION 184.0 FT
185								
190								
195								

H+A_CORE+WELL-09 PLOG-HA-LIB09-BOS STANDARD ONLY - WLN.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 30, 22

TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B2

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	

File No.	134206-007
Sheet No.	1 of 7
Start	July 6, 2022
Finish	July 29, 2022
Driller	D. Sheldon
H&A Rep.	M. Dodson/A. Fleming
Elevation	17.5 (est.)
Datum	Boston City Base
Location	N 488830.4564 E 712160.066

	Casing	Sampler	Barrel
Type	HW	S	NX
Inside Diameter (in.)	4	1.4	2.0
Hammer Weight (lb)	140	140	-
Hammer Fall (in.)	30	30	-

Drilling Equipment and Procedures

Rig Make & Model: CME 55 TRUCK
Bit Type: Roller Bit
Drill Mud: None
Casing: Driven
Hoist/Hammer: Winch / Automatic hammer
PID Make & Model: MiniRAE 3000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					SC	17.0 0.5	On south edge of pit, former concrete sidewalk or pad 2 in below surface. -ASPHALT -	5	15	25	15	15	25				
				0.0/1.5			Light-brown to gray clayey SAND (SC), no structure, no odor, moist, 10% rubble fill with trace ash and cinders, frequent large pockets of lean clay increasing with depth										
				0.0/0.0			- FILL -										
							Note: advanced borehole with vacuum excavation to 5.0 ft to clear utilities.										
5	8 3 8 25	S1 7	5.0 7.0	0.0/0.0 0.0/0.0	CL	12.5 5.0	Stiff lean CLAY with sand (CL), no structure, no odor, moist		5	5	10	10	70				
	15 5 5 10	S2 14	7.0 9.0	0.0/0.0	CL		Stiff olive-brown to light-brown sandy lean CLAY with gravel (CL), no structure, no odor, moist, 20% rubble brick and concrete fragments, 10% ash and cinders	10	10	10	10	10	50				
10	8 3 10 16	S3 16	9.0 11.0	0.0/0.7	GM	8.5 9.0	Medium dense gray-brown silty GRAVEL with sand (GM), interbedded, no odor, wet, 10% concrete fragments, trace cinders and ash	25	20	10	10	15	20				
	18 16 12 9	S4 14	11.0 13.0	0.0/1.5	GM		Similar to above except petroleum-like odor, 30% concrete fragments, wet with slight sheen in spoon tip										
15	8 8 7 8	S5 10	14.0 16.0	0.0/0.3	SW	3.5 14.0	Medium dense gray well-graded SAND with gravel (SW), no structure, no odor, wet, 5% clay in small fragments	20	25	20	20	10	5				
	9 7 10 8	S6 9	16.0 18.0	0.0/0.7	SW		Similar to above, except no clay - FILL -										
20	2 1	S7 20	19.0 21.0		OL/OH	-1.5 19.0	Soft olive-gray to dark brown ORGANIC SOIL with gravel (OL/OH), no structure, organic odor, wet, 15% peat in layers, 5% shells	5	5	5		5	80				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe
GB - Grab Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	166.0
Rock Cored (ft)	22.5
Samples	S19, C6

Boring No. HA22-B2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B2
File No. 134206-007
Sheet No. 2 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	2 1			0.0/0.0			- ORGANIC DEPOSITS -										
	1 2 1 3	S8 11	21.0 23.0	0.0/3.4	OL/OH		Soft olive-gray to gray-brown ORGANIC SOIL (OL/OH), strong organic odor, wet, no trace shell specks		5			5	90				
						-6.5 24.0											
	1 0 1 2	S9 24	24.0 26.0		PT		Very soft brown PEAT (PT), no structure, very strong odor, wet						100				
25				0.0/3.5			- ORGANIC DEPOSITS -										
	2 2 2 3	S10 8	26.0 28.0	0.0/30.5	PT		Similar to above, except soft 40% organic soil										
						-11.5 29.0											
	0 1 1 6	S11 24	29.0 31.0	0.0/1.5	OL/OH	-12.5 30.0	Dark brown to gray-brown ORGANIC SOIL with sand (OL/OH), stratified, organic odor, wet, becoming more sandy and gray with depth					25	75				
30					CL		Very soft gray lean CLAY with sand (CL), layer, no odor, wet, gravelly sand layer		5	5	5	5	80				
	5 7 11 16	S12 20	31.0 33.0		CL		- MARINE DEPOSITS - Similar to above, except very stiff, becoming more stiff and light brown with depth			5	5		90				
	9 12 19 24	S13 18	34.0 36.0	0.0/0.0	CL		Hard light-brown lean CLAY (CL), laminae, no odor, wet	5					95				
35																	
	2 3 5 5	S14 24	39.0 41.0	0.0/0.0	CL		Medium stiff olive-gray lean CLAY (CL), laminae, no odor, wet						100				
40																	
		U1 24	42.0 44.0				Note: collected Shelby Tube sample 42.0 to 44.0 ft.										
	2 3 4 5	S15 24	44.0 46.0		CL		Medium stiff olive-gray lean CLAY (CL), laminae, no odor, wet						100				
45																	
	2	S16	49.0		CL		Medium stiff gray-brown lean CLAY (CL), laminae, no odor, wet,					5	95				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B2
File No. 134206-007
Sheet No. 3 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	2 3 3	10	51.0				occasional sandy/silty beds and layers										
55																	
60																	
65																	
70	0 0 1 4	S17 24	69.0 71.0		CL		Medium stiff gray-brown lean CLAY (CL), laminae, no odor, wet, frequent sandy layers					10	90				
75																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B2

File No. 134206-007

Sheet No. 4 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80																	
85																	
90	0 1 2 2	S18 24	89.0 91.0		CL		Soft lean CLAY (CL), laminae, no odor, wet, occasional fine sand partings						100				
95																	
100																	
105																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B2

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B2
File No. 134206-007
Sheet No. 5 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110	WOR WOR WOH WOH	S19 24	109.0 111.0		CL		Very soft gray lean CLAY (CL), laminae, no odor, moist - MARINE DEPOSITS - PP 0 tsf						100				
							Note: PP stands for pocket penetrometer and is expressed in tons per square foot (tsf).										
115																	
120																	
125																	
130	WOH 3 6 5	S20 17	129.0 131.0		CL		Stiff gray lean CLAY (CL), laminae, no odor, moist PP 0 tsf						100				
135																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B2

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B2
File No. 134206-007
Sheet No. 6 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
140																	
145																	
150	WOH 12 3 4	S21 24	149.0 151.0		CL		Stiff gray lean CLAY (CL), laminae, no odor, moist PP 0 tsf						100				
						-134.5 152.0	Drill action indicates increase in gravel content at 152.0'.										
155	98 35 33 31	S22 5	154.0 156.0		SM		Very dense gray silty SAND with gravel (SM), no structure, no odor, wet - GLACIAL TILL -	15	20	15	10	10	30				
						-141.5 159.0	TOP OF BEDROCK 159.0 FT.										
160	46 100/2"	S23 4	159.0 159.7				Gray Argillite. - WEATHERED BEDROCK -										
165	100/3"	S24 0	164.0 164.3														
							SEE CORE BORING REPORT FOR ROCK DETAILS										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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CORE BORING REPORT

HALEY ALDRICH

Boring No. HA22-B2
File No. 134206-007
Sheet No. 7 of 7

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weathering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
	3	C1	166.0 170.0	10.0	21	Moderate	-148.5 166.0	Medium to soft, moderately to highly weathered, gray, aphanitic ARGILLITE, recovery majority core stones 0.5 to 1.5 in.
	3.5							- BEDROCK -
	5							
	4							
170	6	C2	170.0 174.5	43.0 14.0	80 26	Moderate		Medium to soft, moderately to highly weathered, olive, very coarse grained to fine grained BASALT. Bedding indistinct. Joints moderate to wide, rough to smooth, undulating to stepped, discolored, open.
	7							
	6.5							
	7							
	6	C3	174.5 179.5	33.0 6.0	55 10	High		Soft to medium, highly to moderately weathered, olive, very coarse grained to fine grained, BASALT. Bedding indistinct. Joints moderate to wide, rough to smooth, undulating to planar, discolored to decomposed, open.
175	5							
	5.5							
	5							
	5							
	5.5	C4	179.5 182.5	36.0 13.0	100 36	Moderate		Medium to soft, highly to moderately weathered, olive, coarse grained to fine grained BASALT. Bedding indistinct. Joints moderate, rough to smooth, stepped to undulating, discolored, open.
180	5.5							
	6							
	6	C5	182.5 184.5	16.0	67	High		Medium to soft, highly weathered, olive, coarse grained to fine grained BASALT. Bedding indistinct. Joints moderate, rough to smooth, stepped to undulating, discolored, open.
	5							
	5.5	C6	184.5 188.5	48.0 17.0	100 35	Moderate		Medium, moderately to highly weathered, olive to olive-gray, coarse grained to fine grained, BASALT. Bedding indistinct. Joints moderate, rough to smooth, stepped to undulating, discolored, open.
185	5							
	6							
	5							
	5.5						-171.0 188.5	BOTTOM OF EXPLORATION 188.5 FT
190								
195								
200								

H+A_CORE+WELL-09 PLOG-HA-LIB09-BOS STANDARD ONLY - WLN.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 30, 22

TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B3

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	

File No.	134206-007
Sheet No.	1 of 7
Start	July 5, 2022
Finish	July 28, 2022
Driller	D. Sheldon
H&A Rep.	M. Dodson
Elevation	17.0 (est.)
Datum	Boston City Base
Location	N 488760.4653 E 712076.7463

	Casing	Sampler	Barrel
Type	HW	S	NX
Inside Diameter (in.)	4	1.4	2.0
Hammer Weight (lb)	140	140	-
Hammer Fall (in.)	30	30	-

Drilling Equipment and Procedures

Rig Make & Model: CME 55 TRUCK
Bit Type: Roller Bit
Drill Mud: None
Casing: Driven
Hoist/Hammer: Winch / Automatic hammer
PID Make & Model: MiniRAE 3000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-ASPHALT-										
				0.0/1.5	SP	16.1 0.9	Tan poorly-graded SAND (SP), no structure, no odor, moist to dry, trace brick and concrete fragments	5	5	5	15	65	5				
							- FILL -										
				0.0/0.0													
5				0.0/0.0			Note: advanced borehole with vacuum excavation to 6.0 ft to clear utilities.										
						11.0 6.0	Note: limit of vacuum excavation 6.0 ft										
	12 7 7 7	S1 7	6.0 8.0	8.0/0.0			Medium dense red-gray rubble fill, no structure, no odor, moist, 60.0% brick and concrete fragments	10	20	20	15	20	15				
	7 6 7 11	S2 6	8.0 10.0	0.0/2.2			Similar to above, poor recovery and drill action indicates larger pieces of rubble present										
10	8 11 15 16	S3 8	10.0 12.0	0.0/0.0	SW	7.0 10.0	Medium dense light-brown well-graded SAND with gravel (SW), no structure, no odor, moist	15	25	25	15	15	5				
	14 19 14 15	S4 11	12.0 14.0		SW-SM	5.0 12.0	Medium dense light-brown well-graded SAND with silt and gravel (SW-SM), no structure, no odor, moist -FILL-	10	10	20	25	25	10				
15	1 0 1 0	S5 16	14.0 16.0	0.0/0.3	OL/OH	3.0 14.0	Very soft black to dark brown ORGANIC SOIL (OL/OH), no structure, slight organic odor, wet, 20% peat fibers - ORGANIC DEPOSITS -						100				
		U1 21	16.0 18.0				Note: collected shelby tube sample 16.0 to 18.0 ft.										
	0 1 1 2	S6 24	18.0 20.0	0.0/59.2	OL/OH		Very soft black ORGANIC SOIL (OL/OH), no structure, organic odor, wet, strong hydrogen sulfide odor						100				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/27/22	07:07	16.0	164.0	182.5	10.4

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe
GB - Grab Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	164.0
Rock Cored (ft)	18.5
Samples	S24, C4

Boring No. HA22-B3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING WITH PERM PID COLUMN PLOG-HA-LIB09-BOS STANDARD ONLY - COPY.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 28, 22

TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B3
File No. 134206-007
Sheet No. 2 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	0 1 0 1	S7 20	20.0 22.0	0.0/78.7	OL/ OH		Similar to above										
	0 0 0 1	S8 16	22.0 24.0	0.0/33.8	OL/OH		Very soft black ORGANIC SOIL (OL/OH), no structure, organic odor, wet - ORGANIC DEPOSITS -						100				
						-7.0 24.0											
25	1 0 1 0	S9 24	24.0 26.0	0.0/3.5	PT		Very soft black to dark brown PEAT (PT), no structure, organic odor, wet						100				
	0 0 2 3	S10 24	26.0 28.0	0.0/30.5	PT		Similar to above										
						-12.0 29.0											
30	4 4 7 10	S11 10	29.0 31.0	0.0/0.0	CL		Stiff gray-brown gravelly lean CLAY with sand (CL), no structure, no odor, wet - MARINE DEPOSITS -	10	25	10	5	5	45				
	9 12 15 17	S12 18	31.0 33.0	0.0/0.0	CL		Very stiff olive-brown to olive-gray lean CLAY (CL), mottled, no odor, wet, also laminated						100				
35	7 11 13 16	S13 24	34.0 36.0		CL		Very stiff gray-brown lean CLAY (CL), laminae, no odor, wet						100				
40	1 4 3 3	S14 24	39.0 41.0		CL		Medium stiff lean CLAY (CL), laminae, no odor, wet						100				
45	3 3 2 3	S15 24	44.0 46.0		CL		Medium stiff to medium stiff gray-brown lean CLAY (CL), laminae, no odor, wet						100				
	5	S16	49.0		CL		Similar to above, except stiff, poor recovery										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B3

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B3
File No. 134206-007
Sheet No. 3 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	4 5 4	5	51.0														
55	0 0 3 4	S17 24	54.0 56.0		CL		Very soft to soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
60	2 3 9 3	S18 24	59.0 61.0		CL		Stiff gray-brown lean CLAY (CL), layer, no odor, moist, silt and sandy silt layers					10	90				
65																	
70																	
75																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B3

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B3
File No. 134206-007
Sheet No. 4 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80	1 0 1 4	S19 24	79.0 81.0		CL		Very soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
85																	
90																	
95																	
100	0 0 0 1	S20 24	99.0 101.0		CL		Very soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
105																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B3

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B3
File No. 134206-007
Sheet No. 5 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110																	
115																	
120	1 0 1 3	S21 7	119.0 121.0		CL		Very soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
125																	
130																	
135																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B3

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B3
File No. 134206-007
Sheet No. 6 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
	2 4 5 6	S22 4	139.0 141.0		CL		Stiff gray-brown lean CLAY (CL), no structure, no odor, wet Poor recovery						100				
140																	
145																	
150																	
155																	
	0 1 5 34	S23 24	159.0 161.0		CL		Medium stiff gray lean CLAY (CL), laminae, no odor, wet						100				
160						-143.5											
					SM	160.5	Loose gray silty SAND with gravel (SM), bonded, no odor, wet	15	10	20	15	20	20				
							- GLACIAL TILL - Note: choppy drill action below 160.5 and total water loss below 162.0 ft TOP OF BEDROCK 163.5 FT										
						-146.5 163.5	Note: drilling resistance increase indicates probable top of bedrock 163.5 ft SEE CORE BORING REPORT FOR ROCK DETAILS										
165																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B3

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CORE BORING REPORT

HALEY ALDRICH

Boring No. HA22-B3
File No. 134206-007
Sheet No. 7 of 7

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weathering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
165	5 5 6 6 6	C1	164.0 168.5	24.0 0.0	44 0	High	-147.0 164.0	Medium to soft, highly weathered, gray, light gray, aphanitic, ARGILLITE. Highly fractured recovery, difficult to discern jointing versus breaks. Primary joint set, moderately dipping, smooth to rough, due to high fracturing joint set spacing and quality difficult to discern. - BEDROCK -
170	4 4 4 3.5 3.5	C2	168.5 173.5	60.0 18.0	100 30	Moderate		Hard, slightly weathered, gray, light gray, aphanitic to fine grained, ARGILLITE. Brecciated bedding increasing with depth, discolored weathering, no joints, one moderate break. Medium to soft, moderately weathered, olive, green, red-gray, purple, coarse grained to aphanitic, CONGLOMERATE AND ARGILLITE. Apparent vertical contact between rock color/types, occasionally fractured at contact. Primary joint set, vertical, rough, decomposed to discolored weathering, rock is brittle, many small broken angular chips and fragments associated with frequent breaks. Secondary joint set, moderately dipping, close to moderate, rough, decomposed to discolored weathering, may also be breaks but rock is generally weak.
175	5 5 5.5 6	C3	173.5 177.5	28.0 0.0	58 0	High	-156.5 173.5	Medium to soft, highly weathered, olive-gray, aphanitic to fine grained, ARGILLITE. Very close, rough, unable to discern breaks from joints due to poor recovery and frequent fracturing, occasional very soft kaolinized fragments.
180	4.5 4.5 4 4.5 5	C4	177.5 182.5	54.0 28.0	90 47	Slight Moderate to High	-160.5 177.5 -163.2 180.2	Hard to medium, slightly weathered, gray, black, aphanitic to medium grained, CONGLOMERATE. Primary joint set, moderately dipping, wide to close, rough, discolored to decomposed weathering, joints present below ~180.2 ft with associated frequent breaks and fractured zones, rock 177.5 to 180.2 slightly weathered. Secondary joint set, vertical, rough, discolored weathering. Medium, moderately to highly weathered, gray, black, aphanitic to medium grained, CONGLOMERATE, vertical convolute bedding, frequent vertical and high angle undulating joint and breaks 180.2 to 182.5 ft, moderately weathered.
185							-165.5 182.5	BOTTOM OF EXPLORATION 182.5 FT
190								
195								

H+A_CORE+WELL-09 PLOG-HA-LIB09-BOS STANDARD ONLY - WLN.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 30, 22

TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B4

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	

File No.	134206-007
Sheet No.	1 of 7
Start	July 5, 2022
Finish	July 5, 2022
Driller	D. Sheldon
H&A Rep.	M. Dodson
Elevation	17.0 (est.)
Datum	Boston City Base
Location	N 488856.7193 E 711936.6

	Casing	Sampler	Barrel
Type	HW	S	NX
Inside Diameter (in.)	4	1.4	2.0
Hammer Weight (lb)	140	140	-
Hammer Fall (in.)	30	30	-

Drilling Equipment and Procedures

Rig Make & Model: CME 55 TRUCK
Bit Type: Roller Bit
Drill Mud: None
Casing: Driven
Hoist/Hammer: Winch / Automatic hammer
PID Make & Model: MiniRAE 3000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						16.6	-ASPHALT-										
				0.0/1.5	SM	0.4	Gray-brown silty SAND with gravel (SM), no structure, moist, 10% asphalt fragments and pieces, 5% cinders, ash, clinkers - FILL -	5	20	20	25	15	15				
				0.0/0.0		14.3 2.7	Red to gray-brown rubble fill, 10% of ash, 75.0% bricks and brick fragments, 15.0% mortar and concrete fragments, cinders, clinkers and coal, trace plastic scrap										
5				0.0/0.0			Note: advanced borehole with vacuum excavation to 6.0 ft to clear utilities. Note: limit of vacuum excavation 6.0 ft										
	6 3 3 4	S1 5	6.0 8.0	0.0/0.0			Loose tan to red rubble fill, no structure, no odor, moist, 90.0% brick and mortar fragments, 10.0% sand and gravel										
	5 3 3 3	S2 12	8.0 10.0	0.0/2.2	SM		Loose red-gray to gray-brown silty SAND (SM), no odor, moist, Similar to above intermixed with olive and gray brown silty sand, 50.0% brick and mortar fragments		5	5	10	45	35				
10	2 2 6 7	S3 11	10.0 12.0	0.0/0.0	SP	7.0 10.0	Loose gray poorly graded SAND (SP), no structure, no odor, moist, 15% concrete brick and mortar debris, trace ash, cinders and clinkers	10	10	5	20	50	5				
	7 9 10 6	S4 10	12.0 14.0	0.0/0.0	SM	5.0 12.0	Medium dense light-brown silty SAND with gravel (SM), no structure, no odor, moist -FILL-	5	10	10	20	40	15				
15	3 3 3 3	NR 0	15.0 17.0	0.0/0.0			No recovery, traces of organic soil and wood splinters on exterior of spoon and in tip										
	7 3 2 2	S5 2	17.0 19.0		OL/OH	0.0 17.0	Medium stiff dark brown to black ORGANIC SOIL (OL/OH), no structure, 10% peat, slight hydrogen sulfide odor -ORGANIC DEPOSITS-						100				
20	7 3	NR 0	19.0 21.0				No recovery, black organic soil smeared on exterior of spoon, wood splinters in spoon tip.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe
GB - Grab Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	139.0
Rock Cored (ft)	20.0
Samples	S20, C5

Boring No. HA22-B4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Plasticity**: N - Nonplastic L - Low M - Medium H - High
Toughness: L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B4
File No. 134206-007
Sheet No. 2 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	2 2			0.0/0.0													
	3 2 2 1	S6 24	21.0 23.0	0.0/3.4	OL/OH		Soft black ORGANIC SOIL (OL/OH), no structure, organic odor, 10% organic fibers, moderate hydrogen sulfide-like odor					5	95				
						-7.0											
25	7 1 2 2	S7 6	24.0 26.0	0.0/3.5	OL/OH	24.0	Soft dark brown to brown ORGANIC SOIL (OL/OH), no structure, no odor, wet, high percentage of wood splinters - ORGANIC DEPOSITS -					100					
	7 9 15 9	S8 10	26.0 28.0		CL	-9.0 26.0	Very stiff light-brown to gray-brown sandy lean CLAY (CL), no structure, no odor, wet - MARINE DEPOSITS -			5	10	20	65				
30	5 6 10 11	S9 18	29.0 31.0														
35	4 6 9 9	S10 18	34.0 36.0		CL		Stiff olive-brown to olive-gray lean CLAY with sand (CL), no structure, no odor, wet			5	10	10	75				
40	2 4 5 5	S11 24	39.0 41.0		CL		Similar to above, except stiff olive-gray			5	10	10	75				
45	2 3 3 2	S12 24	44.0 46.0		CL		Medium stiff gray-brown lean CLAY (CL), bedded, no odor, moist, frequent silt and fine sand partings and layers					10	90				
	0	S13	49.0		CL		Soft gray-brown lean CLAY (CL), laminae, no odor, wet		5				95				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B4
File No. 134206-007
Sheet No. 3 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	2 1 2	24	51.0				- MARINE DEPOSITS -										
55																	
60																	
65																	
70	0 0 1 1	S14 24	69.0 71.0		CL		Very soft gray-brown (CL), laminae, no odor, wet						100				
75																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B4
File No. 134206-007
Sheet No. 4 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80							- MARINE DEPOSITS -										
85																	
90	0 0 0 1	S15 24	89.0 91.0		CL		Similar to above										
95																	
100																	
105																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B4

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B4
File No. 134206-007
Sheet No. 5 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110	0 0 0 2	S16 24	109.0 111.0		CL		Very soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
							- MARINE DEPOSITS -										
115																	
120																	
125																	
130	5 3 6 7	S17 24	129.0 131.0		CL		Stiff gray-brown lean CLAY (CL), laminae, no odor, wet		5			5	90				
							Note: slight to moderate water loss drilling below 133.0 ft										
						-117.0	TOP OF BEDROCK 134.0 FT										
135	31 81 59 105	S18 18	134.0 136.0		GM	134.0	Very dense gray silty GRAVEL with sand (GM), distinct rock fabric, no odor, wet, moderate angle bedding visible	20	25	15	15	10	15				
							- WEATHERED BEDROCK -										
						-120.5 137.5	Note: more resistive and smooth drill action and fine rock chips indicate more competent bedrock below 137.5 ft										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B4

File No. 134206-007

Sheet No. 6 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
							SEE CORE BORING REPORT FOR ROCK DETAILS										
140																	
145																	
150																	
155																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B4

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CORE BORING REPORT

HALEY ALDRICH

Boring No. HA22-B4
File No. 134206-007
Sheet No. 7 of 7

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
	7	C1	139.0 142.5	34.0 18.0	81 43	Fresh	-122.0 139.0	Hard, slightly to fresh weathered, gray, light gray, aphanitic, ARGILLITE. Primary joint set, moderately dipping, very close to close, smooth to rough, fresh to decomposed weathering.
140	6.5							
	14							- BEDROCK -
	8							
	5	C2	142.5 147.5	58.0 54.0	97 90	Fresh		Hard, fresh to slightly weathered, gray, light gray, aphanitic, ARGILLITE. Primary joint set, moderately dipping, close to moderate, smooth to rough, fresh to decomposed weathering, one decomposed infilled joint at 146.5.
	5							
	6							
145	7							
	10							
	6	C3	147.5 149.2	21.0 9.0	105 45	Fresh		Hard, fresh to slightly weathered, gray, light gray, aphanitic, ARGILLITE. Primary joint set, moderately dipping, close, smooth to rough, fresh to discolored weathering.
	10							
	4	C4	149.2 154.2	50.0 42.0		Fresh		C4: Similar to above except primary joint set, close to moderate
150	5							
	6.5							
	6.5							
	10							
	6.5	C5	154.2 159.0	54.0 37.0	93 64	Fresh		Hard, fresh to slightly weathered, gray, light gray, aphanitic, ARGILLITE. Jointing similar to C4.
155	6							
	6.5							
	11							
	13						-142.0 159.0	BOTTOM EXPLORATION 159.0
160								
165								
170								

H+A_CORE+WELL-09 PLOG-HA-LIB09-BOS STANDARD ONLY - WLN.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 30, 22

TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B5

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	

File No.	134206-007
Sheet No.	1 of 7
Start	July 5, 2022
Finish	July 13, 2022
Driller	D. Sheldon
H&A Rep.	M. Dodson
Elevation	17.3 (est.)
Datum	Boston City Base
Location	N 488971.5, E 712036.1137

	Casing	Sampler	Barrel
Type	HW	S	NX
Inside Diameter (in.)	4	1.4	2.0
Hammer Weight (lb)	140	140	-
Hammer Fall (in.)	30	30	-

Drilling Equipment and Procedures

Rig Make & Model: CME 55 TRUCK
Bit Type:
Drill Mud: None
Casing: Driven
Hoist/Hammer: Winch / Automatic hammer
PID Make & Model: MiniRAE 3000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						16.8	-ASPHALT-										
				0.0/1.5	SM	0.5	Gray-brown silty SAND with gravel (SM), no structure, no odor, moist, 5% brick fragment and particles, trace mortar - FILL - Note: filter fabric at 2.7 ft	5	15	15	20	30	15				
				0.0/0.0	GP	14.6 2.7	Gray poorly-graded GRAVEL (GP), no structure, no odor, dry, drainage gravel	100									
5				0.0/0.0			Note: advanced borehole with vacuum excavation to 6.0 ft to clear utilities.										
	7 14 13 12	S1 8	6.0 8.0	8.0/0.0	SM	11.3 6.0	Medium dense light-brown silty SAND with gravel (SM), no structure, no odor, moist	10	5	5	20	45	15				
						9.3 8.0											
10	6 7 7 10	S2 8	9.0 11.0	0.0/2.2	SP		Medium dense poorly-graded SAND (SP), no structure, no odor, moist										
	13 11 9 11	S3 3	11.0 13.0		SP		Medium dense poorly graded SAND with gravel (SP), no odor, moist Note: recoered few coarse gravel pieces from 3" spoon										
						3.3											
15	18 15 12 9	S4 1	14.0 16.0		GP	14.0	Medium dense poorly graded GRAVEL (GP), recovered traces of well graded sand and one coarse gravel piece -FILL-										
	12 7 6 7	S5 1	16.0 18.0				Gravel piece in spoon tip, organic soil trace fibers smeared on bottom of spoon, poor recovery on 3 in. spoon										
						-0.7 18.0	-ORGANIC DEPOSITS-										
20	5 4	S6 24	19.0 21.0		PT		Medium stiff dark brown PEAT (PT), strong odor						100				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/12/22	07:03	16.0	151.0	151.0	14.7

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe
GB - Grab Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	151.0
Rock Cored (ft)	21.0
Samples	S21, C5, U1

Boring No. HA22-B5

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B5
File No. 134206-007
Sheet No. 2 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	4 4			0.0/0.0			- ORGANIC DEPOSITS -										
	4 5 4 5	S7 18	21.0 23.0	0.0/3.4	OL/OH	-3.7 21.0	Stiff dark brown to black ORGANIC SOIL (OL/OH), strong odor, wet, peaty						100				
25	5 5 5 6	S8 22	24.0 26.0	0.0/3.5	PT	-6.7 24.0	Stiff dark brown PEAT (PT), no structure, strong odor, wet						100				
	4 5 7 10	S9 21	26.0 28.0	0.0/30.5	PT	-10.7 28.0	Stiff dark brown PEAT (PT), no structure, strong odor, wet, trace gravel and sand at bottom of recovery						100				
30	27 27 33 60/3"	S10 14	29.0 30.8	0.0/0.0	GC	-15.2 32.5	Very dense gray-brown clayey GRAVEL with sand (GC), no structure, no odor, wet - MARINE DEPOSITS -	30	20	10	10	10	20				
35	17 10 15 16	S11 7	34.0 36.0	0.0/0.0	CL		Very stiff light-brown lean CLAY (CL), laminae, no odor, moist - MARINE DEPOSITS -	10					90				
40	5 6 7 8	S12 21	39.0 41.0	0.0/0.0	CL		Stiff olive-brown lean CLAY (CL), laminae, no odor, wet										
		U1 24	42.0 44.0				Note: collected shelby tube sample 42.0 to 44.0 ft. Note: collected Undisturbed tube sample 24" recovery, 2.5" gravel at top of clay recovery										
45	3 3 3 4	S13 24	44.0 46.0	0.0/0.0	CL		Medium stiff olive-brown lean CLAY (CL), laminae, no odor, wet - MARINE CLAY -						100				
	2	S14	49.0		CL		Similar to above						100				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B5
File No. 134206-007
Sheet No. 3 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	2 3 4	24	51.0	0.0/0.0			- MARINE DEPOSITS -										
55	0 0 0 1	S15 24	54.0 56.0		CL		Very soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
60																	
65																	
70																	
75	0 0 0 0	S16 24	74.0 76.0		CL		Similar to above						100				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B5

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B5

File No. 134206-007

Sheet No. 4 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80																	
85																	
90																	
95	0 0 0 1	S17 24	94.0 96.0		CL		Similar to above						100				
100																	
105																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B5

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B5
File No. 134206-007
Sheet No. 5 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110																	
115	5 6 6 7	NR 0	114.0 116.0				No recovery.										
120	0 0 0 4	S18 24	119.0 121.0		CL		Very soft gray-brown lean CLAY (CL), laminae, no odor, wet						100				
125																	
130																	
135																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B5

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B5
File No. 134206-007
Sheet No. 6 of 7

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
140	0 0 4 7	S19 24	139.0 141.0		CL		Soft gray-brown lean CLAY with sand (CL), no odor, wet, laminated top half, becoming sandy with depth		5	5	5	10	75				
							Note: drilling resistance increase, choppy drill action and total water loss indicates outwash or weakly bonded bony glacial till.										
145	18 17 21 30	S20 18	144.0 146.0		SM	-126.7 144.0	Dense gray silty SAND with gravel (SM), inconsistent bonding - GLACIAL TILL -	15	15	10	15	25	20				
						-131.5 148.8	Note: drilling resistance increase and fine gray angular cuttings indicate sound bedrock at 148.8 ft -TOP OF BEDROCK 148.8 FT -BEDROCK-										
150							SEE CORE BORING REPORT FOR ROCK DETAILS										
155																	
160																	
165																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B5

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HALEY ALDRICH

CORE BORING REPORT

Boring No. **HA22-B5**
File No. 134206-007
Sheet No. 7 of 7

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
	2 2 4 3.5	C1	151.0 155.0	27.0 0.0	56 0	High	-133.7 151.0	Medium to soft, highly to completely weathered, gray, light gray, aphanitic, ARGILLITE. Completely weathered based on missing recovery. Primary joint set, moderately dipping, extremely close to close, occasional calcite beds, fresh to decomposed weathering, about 50% recovery, lower core times likely indicate areas where rock washed away. Secondary joint set, vertical, rough, spacing indiscernible due to verticality, discolored weathering. - BEDROCK -
155	3.5 4 3 4	C2	155.0 159.0	46.0 26.0	96 54	Slight		Hard, slightly weathered, gray, light gray, aphanitic, ARGILLITE. Primary joint set, moderately dipping, very close to moderate, fresh to discolored weathering, parallel with bedding. Secondary joint set, horizontal, close, rough, discolored to decomposed weathering, horizontal to low angle.
160	3 3.5 3 3 3	C3	159.0 164.0	60.0 38.0	100 63	Slight		Hard to medium, slightly weathered, gray to light gray, aphanitic ARGILLITE. Extremely thin bedding, moderate to high angle. Bedding convoluted and brecciated below 159.7 ft. Primary joint set, moderately dipping, close to wide, smooth to rough, fresh to discolored weathering, parallel with bedding, frequent breaks along high angle calcite beds below 161 ft, occasional associated joints.
165	3 2.5 3 2.5 3	C4	164.0 169.0	57.0 21.0	95 35	Slight		Hard to medium, slightly to moderately weathered, gray, light gray, aphanitic, ARGILLITE. Frequent high angle calcite beds opposing moderate bedding dip. Bedding, high angle, close to wide, rough, occasionally decomposed/soil filled infilling. Joint, high angle, smooth, 3/8" thick decomposed joint with calcite infilling, decomposed to disintegrated weathering.
170	2 2 3.5	C5	169.0 172.0	24.0 0.0	67 0	Slight		Hard, moderate weathered, gray, aphanitic, ARGILLITE, rock is brittle. Barrel jamming frequently during last foot, likely reason for lower recovery. Primary joint set, moderately dipping, extremely close to close, smooth to rough, fresh to discolored weathering, difficult to discern joints from likely frequent bedding breaks.
							-154.7 172.0	BOTTOM OF EXPLORATION 172.0 FT
175								
180								
185								

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B6

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY, BOSTON, MA
Client	NORTHEASTERN UNIVERSITY
Contractor	

File No.	134206-007
Sheet No.	1 of 6
Start	July 6, 2022
Finish	August 3, 2022
Driller	D. Sheldon
H&A Rep.	M. Dodson/A. Fleming
Elevation	15.5 (est.)
Datum	Boston City Base
Location	N 488833.4411 E 712050.3111

	Casing	Sampler	Barrel
Type	HW	S	NX
Inside Diameter (in.)	4	1.4	2.0
Hammer Weight (lb)	140	140	-
Hammer Fall (in.)	30	30	-

Drilling Equipment and Procedures

Rig Make & Model: CME 55 TRUCK
Bit Type: Roller Bit
Drill Mud: None
Casing: HW DRIVEN 35
Hoist/Hammer: Winch / Automatic hammer
PID Make & Model: MiniRAE 3000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						15.1	-ASPHALT-										
				0.0/1.5	SM	0.4	Gray-brown to light-brown silty SAND with gravel (SM), mps 5.0 in., no structure, no odor, moist, 5% brick and concrete fragments, trace clinkers, cinders and ash	5	20	30	20	15	10				
							- FILL -										
				0.0/0.0													
5				0.0/0.0			Advanced borehole with vacuum excavation to 5.5 ft to clear utilities.										
	12 4 3 4	S1 4	6.0 8.0	0.0	SW-SM	9.5 6.0	Loose gray-brown to light-brown well-graded SAND with silt and gravel (SW-SM), no structure, no odor, moist to wet, trace pockets of silty sand	10	15	15	25	25	10				
	10 10 12 15	S2 14	8.0 10.0	0.6	SW	7.5 8.0	Medium dense light-brown well-graded SAND with gravel (SW), no structure, no odor, moist	10	10	15	30	30	5				
10	6 7 6 2	S3 3	10.0 12.0	0.0	SW		Medium dense light-brown to brown well-graded SAND with gravel (SW), no structure, no odor, wet Drove 3" spoon from 12-14'.	15	15	15	30	25					
	2 1 1 1	S4 0	12.0 14.0	0.0	SW		Very loose light-brown to brown well-graded SAND with gravel (SW), no structure, no odor, wet	15	15	15	30	25					
	WOH WOH WOH 1	S5 17	14.0 16.0	0.0	OL/OH	1.5 14.0	Very soft gray to gray-brown ORGANIC SOIL (OL/OH), no structure, organic odor, wet						100				
15							- ORGANIC DEPOSITS -										
	WOH WOH	S6 9	19.0 21.0	0.0	OL/OH		Very soft gray-brown to gray ORGANIC SOIL (OL/OH), no structure, organic odor, wet, trace fibers						100				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe
GB - Grab Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	164.0
Rock Cored (ft)	-
Samples	S10

Boring No. HA22-B6

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B6
File No. 134206-007
Sheet No. 2 of 6

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	WOH 1																
25	WOH 1 1 1	S7 23	24.0 26.0	0.0	OL/OH		Very soft brown to gray-brown ORGANIC SOIL (OL/OH), no structure, organic odor, wet, frequent peat fibers						100				
						-13.5 29.0											
30	15 13 20 42	S8 2	29.0 31.0	0.0	SP		Dense gray poorly-graded SAND (SP), no structure, no odor, wet				15	80	5				
					CL	-14.5 30.0	- MARINE DEPOSITS -										
							Hard olive-gray to olive lean CLAY (CL), laminae, no odor, moist						100				
35	5 4 7 7	S9 19	34.0 36.0	0.0	CL		Stiff olive-gray to gray lean CLAY (CL), laminae, no odor, moist PP 0.75 tsf						100				
40	3 3 5 4	S10 8	39.0 41.0	0.0	CL		Medium stiff gray to olive-gray lean CLAY (CL), laminae, no odor, moist PP 0.25 tsf						100				
45							- MARINE DEPOSITS -										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B6

File No. 134206-007

Sheet No. 3 of 6

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50							- MARINE DEPOSITS -										
55																	
60																	
65																	
70																	
75																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B6

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B6

File No. 134206-007

Sheet No. 4 of 6

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80							- MARINE DEPOSITS -										
85																	
90																	
95																	
100																	
105																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B6

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TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B6

File No. 134206-007

Sheet No. 5 of 6

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110							- MARINE DEPOSITS -										
115																	
120																	
125																	
130																	
135																	

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-B6

H&A-TEST BORING WITH PERM PID COLUMN PLOG-HA-LIB09-BOS STANDARD ONLY - COPY.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 28, 22

TEST BORING REPORT

HALEY ALDRICH

Boring No. HA22-B6
File No. 134206-007
Sheet No. 6 of 6

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
140							- MARINE DEPOSITS -										
145						-130.5 146.0	Drill action indicates likely top of glacial till at 146.0 ft. - GLACIAL TILL -										
150																	
155						-141.5 157.0	TOP OF BEDROCK 157.0 FT Drill action indicates top of bedrock at 157.0 ft. - BEDROCK - Drill action from 157.0-164.0' indicates competent bedrock.										
160						-148.5 164.0	BOTTOM OF EXPLORATION 164.0 FT										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING WITH PERM PID COLUMN PLOG-HA-LIB09-BOS STANDARD ONLY - COPY.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\134206\GINT\134206-007TBTP.GPJ Sep 28, 22

TEST PIT LOG

Test Pit No. HA22-TP3

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY	**File No.**	134206-007
Location	BOSTON, MA	**H&A Rep**	J. Bitney
Client	NORTHEASTERN UNIVERSITY	**Date**	29 Jul 2022
Contractor	J. DERENZO CONPANY	**Weather**	Clear, 70s
Equipment Used	CAT 430D IT		

Ground El.: 17.5 (est.) **El. Datum:** Boston City Base

Location: N 488766.1444 E 712038.1437

Groundwater depths/entry rates (in./min.): N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0			SW	Gray well-graded SAND (SW), mps 3 in., 0% oversize, no structure, no odor -FILL-	5	10	25	25	25	10				
		16.7 / 0.8	CL	Tan lean CLAY (CL), mps 2 in., 0% oversize, no structure, no odor, moist -COHESIVE FILL-			5	5	5	85				
		16.0 / 1.5	SM	Brown silty SAND with gravel (SM), mps 3 in., 40% oversize, no structure, no odor, moist, 50% BRICK, 10% ash, trace miscellenous materials such as mortar, black rubbery substance, glass, bottles, plastic, plastic sheeting, plastic comb, scap metal, asphalt, copper wire, black fibrous substance, loosely-woven fabric, fire brick, insulated wire, metal pen, lamp, corrugated metal tubing, spary bottle cap, plastic spoon, metal wire, metal bowl, wood picture frame, metal pipe, metal wire, tin cup, rubber, thick plastic sheeting, porcelain, plastic plant, metal components, wood, styrofoam, pockets of clay, marble, metallic paper, rubber tire, slag, clinkers, black fibrous material, coal, metal sawblade, plastic straw, tire and rim, candy wrappers, white powdery material, tar-like material, metal mesh, tan plastic paper, white plastic paper, dentures, white layered material, red layered material, granite foundation at 8 to 10 ft bgs, 6 to 7 blocks as large as 3 ft X 2 ft X 2 ft -RUBBLE FILL PID = 0.4 ppm PID = 0.6 ppm	10	10	20	25	20	15				
2														
4														
6														
8														
10		7.5 / 10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: Brick wall from 1.5 to 8 ft and stone foundation blocks from 8 ft to as deep as bottom of excavation.

Remarks: See test pit sketch and photos for obstruction information.

Field Tests

Dilatancy	R - Rapid S - Slow N - None
Toughness	L - Low M - Medium H - High
Plasticity	N - Nonplastic L - Low M - Medium H - High
Dry Strength	N - None L - Low M - Medium H - High V - Very High

Standing Water in Completed Pit

at depth	N/A	ft
measured after	--	hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	25	= 25
over 24	10	= 30

Test Pit Dimensions (ft)

Pit Length x Width (ft) 8 X 9

Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA22-TP4

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY	**File No.**	134206-007
Location	BOSTON, MA	**H&A Rep**	J. Bitney
Client	NORTHEASTERN UNIVERSITY	**Date**	28 Jul 2022
Contractor	J. DERENZO CONPANY	**Weather**	Cloudy, 70s
Equipment Used	CAT 430D IT		

Ground El.: 17.5 (est.) **El. Datum:** Boston City Base

Location: N 488815.2909 E 711983.4494

Groundwater depths/entry rates (in./min.): N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0		17.2	SW-SM	Gray well-graded SAND with silt and gravel (SW-SM), mps 2 in., 0% oversize, no structure, no odor, dry	5	10	15	25	35	10				
		0.3		-FILL-			5	5	5	85				
		16.5	CL	Gray lean CLAY (CL), mps 2 in., 0% oversize, clumpy, no odor, moist -COHESIVE FILL-	10	10	20	20	25	15				
		1.0		Brown silty SAND with gravel (SM), mps 4 in., 40% oversize, no structure, no odor, moist, 50% BRICK, 5% clay, 10% ash, trace mortar, fire brick, scrap metal, slag, metal spoon, plastic spoon, plastic, slag, plastic tag, glass, styrofoam, pink fibrous material, black tar-like substance, corrugated metal tubing, clinkers, slate, porcelain, bottles, marble, concrete, coal, black fibrous material										
2				-RUBBLE FILL-										
4				PID = 1.0 ppm										
6			SM											
8				Intermixed with light brown sand below 8.5 ft bgs										
10				PID = 0.3 ppm										
		6.5 11.0		BOTTOM OF EXPLORATION 11.0 FT										

Obstructions: Brick wall and foundation noted on south side of test pit.

Remarks: See test pit sketch and photos for obstruction information.

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None	
Toughness	L - Low	M - Medium	H - High	
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High
Dry Strength	N - None	L - Low	M - Medium	H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after -- hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	2	= 2
over 24	0	= 0

Test Pit Dimensions (ft)

Pit Length x Width (ft) 10 X 7
Pit Depth (ft) 11.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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TEST PIT LOG

Test Pit No. HA22-TP5

Project	MATTHEW'S ARENA - NORTHEASTERN UNIVERSITY	**File No.**	134206-007
Location	BOSTON, MA	**H&A Rep**	J. Bitney
Client	NORTHEASTERN UNIVERSITY	**Date**	28 Jul 2022
Contractor	J. DERENZO CONPANY	**Weather**	Cloudy, 70s
Equipment Used	CAT 430D IT		

Ground El.: 17.0 (est.) **El. Datum:** Boston City Base

Location: N 488881.9259 E 711954.9075

Groundwater depths/entry rates (in./min.): N/A

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color GROUP NAME & SYMBOL, % oversized, maximum particle size, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0			SW-SM	Gray well-graded SAND with silt and gravel (SW-SM), mps 3 in., 0% oversize, no structure, no odor, dry	5	10	25	25	25	10				
		16.4 / 0.6		-FILL-	10	10	10	50	10	10				
2				Brown poorly-graded SAND with silt and gravel (SP-SM), mps 2.5 ft, 30% oversize, no structure, no odor, moist, concrete blocks from 0.7 to 1.5 ft, 40% BRICK, 10% ash, trace string, metal, slag, sticks, black fibrous material, glass, coper wire, scrap metal, metal pipe, white insulation, wire mesh, metal wire, yellow block of insulation (boiler) 3 ft bgs (3.5 ft X 1.5 ft X 2 ft), pink tape, slab, black fibrous material, black fabric, wood, clinkers, glass, black fibrous material, nails, plastic sheeting, metal window weight, styrofoam, metal auger, metal mesh, plastic tubing, mortar, concrete, porcelain, thick plastic sheeting, asphalt, GRANITE BLOCK WALL at north side of test pit										
				-RUBBLE FILL-										
4				PID = 0.9 ppm										
			SP-SM											
6														
8				PID = 0.4 ppm										
10		7.0 / 10.0		BOTTOM OF EXPLORATION 10.0 FT										

Obstructions: Metal components and isolated boiler found between 2 and 6 ft bgs.

Remarks: Insulated boiler wrapped in poly and backfilled at about 5 ft bgs. Drill spoils placed in bottom of hole from drilling exploration program taking place on site. GRANITE wall on north side of test pit. See test pit sketch and photos for obstruction information.

Field Tests

Dilatancy	R - Rapid S - Slow N - None
Toughness	L - Low M - Medium H - High
Plasticity	N - Nonplastic L - Low M - Medium H - High
Dry Strength	N - None L - Low M - Medium H - High V - Very High

Standing Water in Completed Pit

at depth N/A ft
measured after -- hours elapsed

Boulders

Diameter (in.)	Number		Approx. Vol. (cu.ft)
12 to 24	10	=	15
over 24	15	=	10

Test Pit Dimensions (ft)

Pit Length x Width (ft) 8 X 7
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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APPENDIX C
Laboratory Data Reports

OPTIMUM
Analytical and Consulting, LLC

85 Stiles Road, Suite 201
Salem, NH 03079
603-458-5247

K. Tripp
Haley & Aldrich, Inc.
465 Medford St. Suite 2200
Boston MA 02129

Project Reference:	134206-007
Laboratory Batch #:	2243695
Date Samples Received:	08/09/2022
Date Samples Analyzed:	08/12/2022
Date of Final Report:	08/16/2022

SAMPLE IDENTIFICATION:

Sixteen (16) samples from Matthews Arena; Northeastern University, Boston, MA project were submitted by J. Bitney on 08/09/2022

This bulk sample(s) was delivered to Optimum Analytical Consulting, LLC (Optimum) located in Salem, New Hampshire for asbestos content determination.

ANALYTICAL METHOD:

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter (<0.25µm) may not be detected by the PLM method. Floor tile and other resinous bound materials may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additionally, there is currently no approved EPA analytical method to reliably confirm vermiculite as non-asbestos containing. Additional analytical methods may be required. Optimum Analytical recommends using Transmission Electron Microscopy (TEM) or other approved methods for a more definitive analysis.

Optimum will retain all samples for a minimum of three months. Further analysis or return of samples must be requested within this three month period to guarantee their availability. This report may not be reproduced except in full, without the written approval of Optimum Analytical and Consulting, LLC.

The client/laboratory shall not use the NVLAP and AIHA Logo or this test report in a way that constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Point Count = .25%, 1000 Point Count = 0.1%; Present or Absent are observations made during a qualitative analysis.

This report is considered preliminary until signed by both the Laboratory Analyst and Laboratory Director or Supervisor. If you have any questions regarding this report, please do not hesitate to contact us.

Jamie L. Noel
Laboratory Director

Kristina Scaviola
Laboratory Supervisor

NVLAP Lab Code: 101433-0

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Haley & Aldrich, Inc.
ADDRESS: 465 Medford St. Suite 2200
CITY / STATE / ZIP: Boston MA 02129
CONTACT: K. Tripp
DESCRIPTION: PLM Analysis
LOCATION: Matthews Arena; Northeastern University, Boston, MA

ORDER #: 2243695
PROJECT #: 134206-007
DATE COLLECTED: 07/28/2022
COLLECTED BY: J. Bitney
DATE RECEIVED: 08/09/2022
ANALYSIS DATE: 08/12/2022
REPORT DATE: 08/16/2022
ANALYST: Melanie Guzman Cintro

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2243695-001 1	HA22-TP3, 1 ft. bgs. Tarlike Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	1% 99%
2243695-002 2	HA22-TP3, 2.5 ft. bgs. Fibrous Material, Brown	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	95% 5%
2243695-003 3	HA22-TP3, 7 ft. bgs. LAYER 1 Fibrous Gasket, Brown	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	64% 36%
	LAYER 2 Mastic, Black	LAYER 2 100%	None Detected		Cellulose Fiber Non-Fibrous Material	1% 99%
2243695-004 4	HA22-TP3, 7 ft. bgs. Tarlike Material, Black	LAYER 1 100%	Chrysotile	2%	Cellulose Fiber Non-Fibrous Material	13% 85%
2243695-005 5	HA22-TP3, 7 ft. bgs. Layered Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	15% 85%
2243695-006 6	HA22-TP3, 9 ft. bgs. Tarlike Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	35% 65%
2243695-007 7	HA22-TP4, 5 ft. bgs. Tarlike Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	25% 75%
2243695-008 8	HA22-TP4, 6 ft. bgs. Tarlike Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	25% 75%
2243695-009 9	HA22-TP4, 7 ft. bgs. Fibrous Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	25% 75%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Haley & Aldrich, Inc.
ADDRESS: 465 Medford St. Suite 2200
CITY / STATE / ZIP: Boston MA 02129
CONTACT: K. Tripp
DESCRIPTION: PLM Analysis
LOCATION: Matthews Arena; Northeastern University, Boston, MA

ORDER #: 2243695
PROJECT #: 134206-007
DATE COLLECTED: 07/28/2022
COLLECTED BY: J. Bitney
DATE RECEIVED: 08/09/2022
ANALYSIS DATE: 08/12/2022
REPORT DATE: 08/16/2022
ANALYST: Melanie Guzman Cintro

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2243695-010 10	HA22-TP4, 9 ft. bgs. Fibrous Material, Black	LAYER 1 100%	Chrysotile	15%	Cellulose Fiber Non-Fibrous Material	25% 60%
2243695-011 11	HA22-TP5, 2.5 ft. bgs. Insulation, Off White	LAYER 1 100%	None Detected		Fibrous Glass Cellulose Fiber Non-Fibrous Material	95% 2% 3%
2243695-012 12	HA22-TP5, 3 ft. bgs. Insulation, Tan	LAYER 1 100%	None Detected		Fibrous Glass Cellulose Fiber Non-Fibrous Material	95% 2% 3%
2243695-013 13	HA22-TP5, 4.5 ft. bgs. Fibrous Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	85% 15%
2243695-014 14	HA22-TP5, 5 ft. bgs. Fibrous Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber Non-Fibrous Material	75% 25%
2243695-015 15	HA22-TP5, 7 ft. bgs. Black Fibrous Material, Black	LAYER 1 100%	Chrysotile	2%	Cellulose Fiber Non-Fibrous Material	25% 73%
2243695-016 16	HA22-TP5, 8 ft. bgs. Fibrous Material, White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Non-Fibrous Material	2% 95% 3%

Analyst Signatory: Melanie Guzman
Melanie Guzman Cintron

NVLAP TESTING
NVLAP Lab Code: 101433-0

OPTIMUM
Analytical and Consulting, LLC

85 Stiles Rd, Ste. 201
Salem, NH 03079
603-458-5247

CHAIN OF CUSTODY

Please fill in all Highlighted Areas 2243695

(Our Office Hours are 8A – 4:30P - anything received after 4:30P will be received on the following day!)

Choose One: **If none selected it will be assumed Standard TAT**

Analysis & TAT:	4-6 Hour	24 Hour	48 Hour	Standard (3-5)	*Standard (6-10)	Comments (please indicate other test-specific information here):
PLM (Material)			X			
Mold	N/A					
Lead	N/A					
Other: (TEM. PCB, etc.)	N/A					

Sampler: J. Bitney
DATE SAMPLED: 7/28/2022 7/29/2022

Email: JBitney@haleyaldrich.com
Cworthy@haleyaldrich.com
ktripp@haleyaldrich.com

Positive Stop Analysis: Yes / No (No circled)

Project Manager: K. Tripp

Sample Location: Matthews Arena, Northeastern University, Boston, MA

Phone Number: 781-825-7789

Project Information: Proj.#: 134206-007
Proj Name: Matthews Arena-Northeastern University

Company Name and Address: 465 Medford St., Suite#2200 Charlestown, MA

Sample Number	Description and Location
See attached document	

The EPA Requires that layered samples be separated; Please indicate if a sample is to be analyzed as a composite. Optimum only uses data indicated on the CoC by the client when producing the final report. If information is missing or incorrect on the COC Please contact Optimum with the correct/missing information. If turnaround time is NOT indicated the samples will be assumed as 3 to 5 day turn around.

Relinquished by: Jack Bitney Date 8/8/22 Time 16:00

Received by: [signature] Date 8/9 Time 10:30

2243695

Sample Number	Description and Location
1	Black tarlike material, HA22-TP3, 1 ft bgs
2	Black fibrous material, HA22-TP3, 2.5 ft bgs
3	White fibrous gasket, HA22-TP3, 7 ft bgs
4	Black tarlike material, HA22-TP3, 7 ft bgs
5	Black layered material, HA22-TP3, 7 ft bgs
6	Black tarlike [redacted] material, HA22-TP3, 9 ft bgs
7	Black tarlike [redacted] material, HA22-TP4, 5 ft bgs
8	Black tarlike [redacted] material, HA22-TP4, 6 ft bgs
9	Black fibrous material, HA22-TP4, 7 ft bgs
10	Black fibrous material, HA22-TP4, 9 ft bgs
11	White insulation, HA22-TP5, 2.5 ft bgs
12	Tan insulation from boiler, HA22-TP5, 3 ft bgs
13	Black fibrous material, HA22-TP5, 4.5 ft bgs
14	Black fibrous material, HA22-TP5, 5 ft bgs
[redacted]	[redacted]
[redacted] 15	Black fibrous material, HA22-TP5, 7 ft bgs
[redacted] 16	White fibrous material, HA22-TP5, 8 ft bgs
[redacted]	[redacted]

OPTIMUM
Analytical and Consulting, LLC

85 Stiles Road, Suite 201
Salem, NH 03079
603-458-5247

K. Tripp
Haley & Aldrich, Inc.
465 Medford St. Suite 2200
Boston MA 02129

Project Reference:	134206-012
Laboratory Batch #:	2349818
Date Samples Received:	12/26/2023
Date Samples Analyzed:	12/28/2023
Date of Final Report:	12/28/2023

SAMPLE IDENTIFICATION:

Three (3) samples from Northeastern University - New Arena, 238-262 St. Botolph St., Boston, MA project were submitted by J. Bitney on 12/26/2023

This bulk sample(s) was delivered to Optimum Analytical Consulting, LLC (Optimum) located in Salem, New Hampshire for asbestos content determination.

ANALYTICAL METHOD:

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter (<0.25µm) may not be detected by the PLM method. Floor tile and other resinous bound materials may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additionally, there is currently no approved EPA analytical method to reliably confirm vermiculite as non-asbestos containing. Additional analytical methods may be required. Optimum Analytical recommends using Transmission Electron Microscopy (TEM) or other approved methods for a more definitive analysis.

Optimum will retain all samples for a minimum of three months. Further analysis or return of samples must be requested within this three month period to guarantee their availability. This report may not be reproduced except in full, without the written approval of Optimum Analytical and Consulting, LLC.

The client/laboratory shall not use the NVLAP and AIHA Logo or this test report in a way that constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Point Count = .25%, 1000 Point Count = 0.1%; Present or Absent are observations made during a qualitative analysis.

This report is considered preliminary until signed by both the Laboratory Analyst and Laboratory Director or Supervisor. If you have any questions regarding this report, please do not hesitate to contact us.

Jamie L. Noel
Laboratory Director

NVLAP Lab Code: 101433-0

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT:	Haley & Aldrich, Inc.	**ORDER #:**	2349818
ADDRESS:	465 Medford St. Suite 2200	**PROJECT #:**	134206-012
CITY / STATE / ZIP:	Boston MA 02129	**DATE COLLECTED:**	12/19/2023
CONTACT:	K. Tripp	**COLLECTED BY:**	J. Bitney
DESCRIPTION:	PLM Analysis	**DATE RECEIVED:**	12/26/2023
LOCATION:	Northeastern University - New Arena, 238-262 St. Botolph St., Boston, MA	**ANALYSIS DATE:**	12/28/2023
		REPORT DATE:	12/28/2023
		ANALYST:	Mayelin Henriquez

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2349818-001						
1	Fibrous Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber	95%
					Non-Fibrous Material	5%
2349818-002						
2	LAYER 1 Brick Mortar, Red	LAYER 1 100%	None Detected		Cellulose Fiber	1%
					Non-Fibrous Material	99%
	LAYER 2 Adhesive, Orange/Tan	LAYER 2 100%	None Detected		Cellulose Fiber	1%
					Non-Fibrous Material	99%
2349818-003						
3	Fabric, Black/Brown	LAYER 1 100%	Chrysotile	75%	Cellulose Fiber	5%
					Non-Fibrous Material	20%

Analyst Signatory: Mayelin Henriquez

Mayelin Henriquez

NVLAP TESTING

NVLAP Lab Code: 101433-0

OPTIMUM
Analytical and Consulting, LLC

2349818

85 Stiles Rd, Ste. 201
Salem, NH 03079
603-458-5247

CHAIN OF CUSTODY

Please fill in all Highlighted Areas

(Our Office Hours are 8A – 4:30P - anything received after 4:30P will be received on the following day!)

Choose One: *If none selected it will be assumed Standard TAT*

Analysis & TAT:	4-6 Hour	24 Hour	48 Hour	Standard (3-5)	*Standard (6-10)	Comments (please indicate other test-specific information here):
PLM (Material)				X		
Mold	N/A					
Lead	N/A					
Other: (TEM. PCB, etc.)	N/A					

Sampler: J. Bitney **DATE SAMPLED:** 12/19/23	**Email:** jbitney@haleyaldrich.com, cworthy@haleyaldrich.com, ktripp@haleyaldrich.com	Positive Stop Analysis	Yes	No
Project Manager: Katelyn Tripp (Haley & Aldrich)	**Sample Location:** Northeastern University - New Arena	**Phone Number:** 617-886-7400		
Project Information: Project Number: 134206-012 Project Name: Northeastern University - New Arena Project Address: 238-262 St. Botolph St., Boston, MA 02115		**Company Name and Address:** Haley & Aldrich, Inc. 465 Medford St., Suite #2200, Charlestown, MA 02129		

Sample Number	Description and Location
1	Black Fibrous Material
2	Orange Coating Material
3	Black Fabric

The EPA Requires that layered samples be separated; Please indicate if a sample is to be analyzed as a composite. Optimum only uses data indicated on the CoC by the client when producing the final report. If information is missing or incorrect on the COC Please contact Optimum with the correct/missing information. If turnaround time is NOT indicated the samples will be assumed as 3 to 5 day turn around.

Relinquished by: Jack Bitney Date 12/22/23 Time 11:50

Received by: [signature] Date 12/26/23 Time 11:40

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K. Tripp
Haley & Aldrich, Inc.
465 Medford St. Suite 2200
Boston MA 02129

Project Reference:	134206-012
Laboratory Batch #:	2449894
Date Samples Received:	01/02/2024
Date Samples Analyzed:	01/09/2024
Date of Final Report:	01/10/2024

SAMPLE IDENTIFICATION:

Seventeen (17) samples from Northeastern University-New Arena, 238-262 St., Botolph St., Boston, MA project were submitted by Client on 01/02/2024

This bulk sample(s) was delivered to Optimum Analytical Consulting, LLC (Optimum) located in Salem, New Hampshire for asbestos content determination.

ANALYTICAL METHOD:

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter (<0.25µm) may not be detected by the PLM method. Floor tile and other resinous bound materials may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additionally, there is currently no approved EPA analytical method to reliably confirm vermiculite as non-asbestos containing. Additional analytical methods may be required. Optimum Analytical recommends using Transmission Electron Microscopy (TEM) or other approved methods for a more definitive analysis.

Optimum will retain all samples for a minimum of three months. Further analysis or return of samples must be requested within this three month period to guarantee their availability. This report may not be reproduced except in full, without the written approval of Optimum Analytical and Consulting, LLC.

The client/laboratory shall not use the NVLAP and AIHA Logo or this test report in a way that constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Point Count = .25%, 1000 Point Count = 0.1%; Present or Absent are observations made during a qualitative analysis.

This report is considered preliminary until signed by both the Laboratory Analyst and Laboratory Director or Supervisor. If you have any questions regarding this report, please do not hesitate to contact us.

Jamie L. Noel
Laboratory Director

NVLAP Lab Code: 101433-0

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BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT:	Haley & Aldrich, Inc.	**ORDER #:**	2449894
ADDRESS:	465 Medford St. Suite 2200	**PROJECT #:**	134206-012
CITY / STATE / ZIP:	Boston MA 02129	**DATE COLLECTED:**	
CONTACT:	K. Tripp	**COLLECTED BY:**	Client
DESCRIPTION:	PLM Analysis	**DATE RECEIVED:**	01/02/2024
LOCATION:	Northeastern University-New Arena, 238-262 St., Botolph St., Boston, MA	**ANALYSIS DATE:**	01/09/2024
		REPORT DATE:	01/10/2024
		ANALYST:	Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2449894-001	New Arena					
HA24-TP1-3	Fire Brick Like Material, Beige	LAYER 1	None Detected		Cellulose Fiber	1%
		100%			Binder/Filler	99%
2449894-002	New Arena					
HA24-TP2-0-5A	Fibrous Material, Black	LAYER 1	None Detected		Cellulose Fiber	85%
		100%			Binder/Filler	15%
2449894-003	New Arena					
HA24-TP2-0-5B	Fibrous Material, Black	LAYER 1	Chrysotile	45%	Cellulose Fiber	15%
		100%			Binder/Filler	40%
2449894-004	New Arena					
HA24-TP2-4	Bulk Material, Orange	LAYER 1	None Detected		Cellulose Fiber	1%
		100%			Binder/Filler	99%
2449894-005	New Arena					
HA24-TP3-0-5A	Bulk Material, Orange	LAYER 1	None Detected		Cellulose Fiber	1%
		100%			Binder/Filler	99%
2449894-006	New Arena					
HA24-TP3-5-10	LAYER 1	LAYER 1	None Detected		Cellulose Fiber	1%
	Moasic Coating Material, Beige/Green	100%			Binder/Filler	99%
	LAYER 2	LAYER 2	None Detected		Cellulose Fiber	95%
	Paper Backing, Brown/Black	100%			Binder/Filler	5%
2449894-007	New Arena					
HA24-TP3-0-5B	Coating, Tan	LAYER 1	None Detected		Cellulose Fiber	1%
		100%			Binder/Filler	99%
2449894-008	New Arena					
HA24-TP4-0-5A	Fibrous Material, Black	LAYER 1	None Detected		Cellulose Fiber	80%
		100%			Binder/Filler	20%
2449894-009	New Arena					
HA24-TP4-0-5B	LAYER 1	LAYER 1	None Detected		Cellulose Fiber	2%
	Tile (Sample is Plaster), Beige	100%			Hair	8%
					Binder/Filler	90%
	LAYER 2	LAYER 2	None Detected		Cellulose Fiber	1%
	Coating, Beige/Gray	100%			Binder/Filler	99%

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Analytical and Consulting, LLC
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BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

CLIENT:	Haley & Aldrich, Inc.	**ORDER #:**	2449894
ADDRESS:	465 Medford St. Suite 2200	**PROJECT #:**	134206-012
CITY / STATE / ZIP:	Boston MA 02129	**DATE COLLECTED:**	
CONTACT:	K. Tripp	**COLLECTED BY:**	Client
DESCRIPTION:	PLM Analysis	**DATE RECEIVED:**	01/02/2024
LOCATION:	Northeastern University-New Arena, 238-262 St., Botolph St., Boston, MA	**ANALYSIS DATE:**	01/09/2024
		REPORT DATE:	01/10/2024
		ANALYST:	Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2449894-010	New Arena					
HA24-TP4-5-10	Fibrous Material, Gray/Green/Black	LAYER 1 100%	None Detected		Cellulose Fiber	85%
					Binder/Filler	15%
2449894-011	New Arena					
HA24-TP5-0-5	LAYER 1 Beige Coating, Beige	LAYER 1 100%	None Detected		Cellulose Fiber	3%
					Binder/Filler	97%
	LAYER 2 Fibrous Layer, Black	LAYER 2 100%	None Detected		Cellulose Fiber	3%
					Synthetic Fiber	95%
					Binder/Filler	2%
	LAYER 3 Bulk Material, Black	LAYER 3 100%	None Detected		Cellulose Fiber	3%
					Binder/Filler	97%
2449894-012	New Arena					
HA24-TP5-5-10A	Fibrous Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber	65%
					Binder/Filler	35%
2449894-013	New Arena					
HA24-TP5-5-10B	Fibrous Material (Sample is not Fibrous), Black	LAYER 1 100%	None Detected		Cellulose Fiber	2%
					Binder/Filler	98%
2449894-014	New Arena					
HA24-TP5-5-10C	Fibrous Material, Green/Gray/Black	LAYER 1 100%	None Detected		Cellulose Fiber	65%
					Binder/Filler	35%
2449894-015	New Arena					
HA24-TP7-0-05A	Bulk Layered Material, Black	LAYER 1 100%	None Detected		Cellulose Fiber	5%
					Binder/Filler	95%
2449894-016	New Arena					
HA24-TP7-0-5B	LAYER 1 Tile, Beige	LAYER 1 100%	None Detected		Cellulose Fiber	1%
					Binder/Filler	99%
	LAYER 2 Coating, Black	LAYER 2 100%	None Detected		Cellulose Fiber	1%
					Binder/Filler	99%
2449894-017	New Arena					
HA24-TP8-8-10	LAYER 1 Tile, Beige	LAYER 1 100%	None Detected		Cellulose Fiber	1%
					Binder/Filler	99%
	LAYER 2 Coating, Black	LAYER 2 100%	None Detected		Cellulose Fiber	1%
					Binder/Filler	99%

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Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT:	Haley & Aldrich, Inc.	**ORDER #:**	2449894
ADDRESS:	465 Medford St. Suite 2200	**PROJECT #:**	134206-012
CITY / STATE / ZIP:	Boston MA 02129	**DATE COLLECTED:**	
CONTACT:	K. Tripp	**COLLECTED BY:**	Client
DESCRIPTION:	PLM Analysis	**DATE RECEIVED:**	01/02/2024
LOCATION:	Northeastern University-New Arena, 238-262 St., Botolph St., Boston, MA	**ANALYSIS DATE:**	01/09/2024
		REPORT DATE:	01/10/2024
		ANALYST:	Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)

Analyst Signatory: _____
Jamie Noel

NVLAP TESTING
NVLAP Lab Code: 101433-0

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2449894

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CHAIN OF CUSTODY

Please fill in all Highlighted Areas

(Our Office Hours are 8A – 4:30P - anything received after 4:30P will be received on the following day!)

Choose One: *If none selected it will be assumed Standard TAT*

Analysis & TAT:	4-6 Hour	24 Hour	48 Hour	Standard (3-5)	*Standard (6-10)	Comments (please indicate other test-specific information here):
PLM (Material)				X		
Mold	N/A					
Lead	N/A					
Other: (TEM. PCB, etc.)	N/A					

Sampler: **DATE SAMPLED:**	Email: jbitney@haleyaldrich.com, cworthy@haleyaldrich.com, ktripp@haleyaldrich.com	Positive Stop Analysis	Yes	No
Project Manager: Katelyn Tripp (Haley & Aldrich)	Sample Location: Northeastern University - New Arena	Phone Number: 617-886-7400		
Project Information: Project Number: 134206-012 Project Name: Northeastern University - New Arena Project Address: 238-262 St. Botolph St., Boston, MA 02115		Company Name and Address: Haley & Aldrich, Inc. 465 Medford St., Suite #2200, Charlestown, MA 02129		

	Sample Number	Description and Location
1	HA24-TP1_3	Firebrick like material
2	HA24-TP2_0-5A	Black Fibrous Material
3	HA24-TP2_0-5B	Black Fibrous Material
4	HA24-TP2_4	Orange tile like material
5	HA24-TP3_0-5A	Orange tile like material
6	HA24-TP3_5-10	Moasic coatng material with black backing

*See second page for more samples. Total of 17 submitted

The EPA Requires that layered samples be separated; Please indicate if a sample is to be analyzed as a composite. Optimum only uses data indicated on the CoC by the client when producing the final report. If information is missing or incorrect on the COC Please contact Optimum with the correct/missing information. If turnaround time is NOT indicated the samples will be assumed as 3 to 5 day turn around.

Relinquished by: [signature] Date 12/29/23 Time 12:00pm Received by: [signature] Date 1/2/24 Time 9:30

	Sample Number	Description and Location 2449894
7	HA24-TP3_0-5B	Coating material
8	HA24-TP4_0-5A	Black Fibrous Material
9	HA24-TP4_0-5B	Tile
10	HA24-TP4_5-10	Black Fibrous Material
11	HA24-TP5_0-5	Black Fibrous Material
12	HA24-TP5_5-10A	Black Fibrous Material
13	HA24-TP5_5-10B	Black Fibrous Material
14	HA24-TP5_5-10C	Black Fibrous Material with green & white paper
15	HA24-TP7_0-5A	Black Layered Material
16	HA24-TP7_0-5B	Tile with Black coating on on side.
17	HA24-TP8_8-10	Tile with Black coating on on side.

1/2/24 9:30

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Salem, NH 03079
603-458-5247

K. Tripp
Haley & Aldrich, Inc.
465 Medford St. Suite 2200
Boston MA 02129

Project Reference:	134206-012
Laboratory Batch #:	2449988
Date Samples Received:	01/12/2024
Date Samples Analyzed:	01/17/2024
Date of Final Report:	01/17/2024

SAMPLE IDENTIFICATION:

One (1) samples from Northeastern University-New Arena, 238-262 St., Botolph St., Boston, MA project were submitted by Jack Bitney on 01/12/2024

This bulk sample(s) was delivered to Optimum Analytical Consulting, LLC (Optimum) located in Salem, New Hampshire for asbestos content determination.

ANALYTICAL METHOD:

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter (<0.25µm) may not be detected by the PLM method. Floor tile and other resinous bound materials may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additionally, there is currently no approved EPA analytical method to reliably confirm vermiculite as non-asbestos containing. Additional analytical methods may be required. Optimum Analytical recommends using Transmission Electron Microscopy (TEM) or other approved methods for a more definitive analysis.

Optimum will retain all samples for a minimum of three months. Further analysis or return of samples must be requested within this three month period to guarantee their availability. This report may not be reproduced except in full, without the written approval of Optimum Analytical and Consulting, LLC.

The client/laboratory shall not use the NVLAP and AIHA Logo or this test report in a way that constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Point Count = .25%, 1000 Point Count = 0.1%; Present or Absent are observations made during a qualitative analysis.

This report is considered preliminary until signed by both the Laboratory Analyst and Laboratory Director or Supervisor. If you have any questions regarding this report, please do not hesitate to contact us.

Jamie L. Noel
Laboratory Director

NVLAP Lab Code: 101433-0

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BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT:	Haley & Aldrich, Inc.	**ORDER #:**	2449988
ADDRESS:	465 Medford St. Suite 2200	**PROJECT #:**	134206-012
CITY / STATE / ZIP:	Boston MA 02129	**DATE COLLECTED:**	12/19/2023
CONTACT:	K. Tripp	**COLLECTED BY:**	Jack Bitney
DESCRIPTION:	PLM Analysis	**DATE RECEIVED:**	01/12/2024
LOCATION:	Northeastern University-New Arena, 238-262 St., Botolph St., Boston, MA	**ANALYSIS DATE:**	01/17/2024
		REPORT DATE:	01/17/2024
		ANALYST:	Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2449988-001	New Arena					
4	Fabric, Black	LAYER 1	Chrysotile	85%	Cellulose Fiber	10%
		100%			Binder/Filler	5%

Analyst Signatory: _____
Jamie Noel

NVLAP TESTING
NVLAP Lab Code: 101433-0

OPTIMUM
Analytical and Consulting, LLC

2449988

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CHAIN OF CUSTODY

Please fill in all Highlighted Areas

(Our Office Hours are 8A – 4:30P - anything received after 4:30P will be received on the following day!)

Choose One: ****If none selected it will be assumed Standard TAT****

Analysis & TAT:	4-6 Hour	24 Hour	48 Hour	Standard (3-5)	*Standard (6-10)	Comments (please indicate other test-specific information here):
PLM (Material)				X		
Mold	N/A					
Lead	N/A					
Other: (TEM. PCB, etc.)	N/A					

Sampler: Jack Bitney **DATE SAMPLED:** 12/19/23	**Email:** jbitney@haleyaldrich.com, cworthy@haleyaldrich.com, ktripp@haleyaldrich.com	Positive Stop Analysis	Yes	No
Project Manager: Katelyn Tripp (Haley & Aldrich)	**Sample Location:** Northeastern University - New Arena	**Phone Number:** 617-886-7400		
Project Information: Project Number: 134206-012 Project Name: Northeastern University - New Arena Project Address: 238-262 St. Botolph St., Boston, MA 02115		**Company Name and Address:** Haley & Aldrich, Inc. 465 Medford St., Suite #2200, Charlestown, MA 02129		

Sample Number	Description and Location
4	Black Fabric Sample #2

The EPA Requires that layered samples be separated; Please indicate if a sample is to be analyzed as a composite. Optimum only uses data indicated on the CoC by the client when producing the final report. If information is missing or incorrect on the COC Please contact Optimum with the correct/missing information. If turnaround time is NOT indicated the samples will be assumed as 3 to 5 day turn around.

Relinquished by: Jack Bitney Date 1/22/24 Time 15:52

Received by: [illegible] Date 1/22/24 Time 9:30

ANALYTICAL REPORT

Lab Number:	L2235654
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-006
Report Date:	07/19/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2235654-01	HA22-B6_1.0-6.0	SOIL	BOSTON, MA	07/05/22 10:00	07/05/22
L2235654-02	HA22-B5_0.5-2.6	SOIL	BOSTON, MA	07/05/22 13:45	07/05/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L2235654-01: At the client's request, the sample was placed on hold.

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2235654-02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0025)

Average Response Factor: 1,4-dioxane

L2235654-02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 07/19/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235654

Report Date: 07/19/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1662849-3	Dichlorodifluoromethane	LCS	153	70-130	02	potential high bias
8260D	Batch QC	WG1662849-4	Dichlorodifluoromethane	LCSD	150	70-130	02	potential high bias
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1659191-3	Butyl benzyl phthalate	LCSD	32	30	02	non-directional bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235654

Project Number: 134206-006 **Report Date:** 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02
Client ID: HA22-B5_0.5-2.6
Sample Location: BOSTON, MA

Date Collected: 07/05/22 13:45
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/12/22 13:28
Analyst: AJK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.73	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.73	--	1
1,2-Dichloropropane	ND		ug/kg	0.73	--	1
Dibromochloromethane	ND		ug/kg	0.73	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.73	--	1
Tetrachloroethene	ND		ug/kg	0.37	--	1
Chlorobenzene	ND		ug/kg	0.37	--	1
Trichlorofluoromethane	ND		ug/kg	2.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.73	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	--	1
Bromodichloromethane	ND		ug/kg	0.37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.73	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	--	1
1,1-Dichloropropene	ND		ug/kg	0.37	--	1
Bromoform	ND		ug/kg	2.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Benzene	ND		ug/kg	0.37	--	1
Toluene	ND		ug/kg	0.73	--	1
Ethylbenzene	ND		ug/kg	0.73	--	1
Chloromethane	ND		ug/kg	2.9	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.73	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.73	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235654

Project Number: 134206-006 **Report Date:** 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02 Date Collected: 07/05/22 13:45

Client ID: HA22-B5_0.5-2.6 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.37	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.73	--	1
Xylenes, Total	ND		ug/kg	0.73	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.73	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.73	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.73	--	1
Dichlorodifluoromethane	ND		ug/kg	7.3	--	1
Acetone	ND		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.3	--	1
Methyl ethyl ketone	ND		ug/kg	7.3	--	1
Methyl isobutyl ketone	ND		ug/kg	7.3	--	1
2-Hexanone	ND		ug/kg	7.3	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	2.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.73	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.73	--	1
sec-Butylbenzene	ND		ug/kg	0.73	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	2.9	--	1
Isopropylbenzene	ND		ug/kg	0.73	--	1
p-Isopropyltoluene	ND		ug/kg	0.73	--	1
Naphthalene	ND		ug/kg	2.9	--	1
n-Propylbenzene	ND		ug/kg	0.73	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235654

Project Number: 134206-006 **Report Date:** 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02 Date Collected: 07/05/22 13:45

Client ID: HA22-B5_0.5-2.6 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	59	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/12/22 08:50
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1662849-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/12/22 08:50
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1662849-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/12/22 08:50
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1662849-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1662849-3 WG1662849-4								
Methylene chloride	94		91		70-130	3		20
1,1-Dichloroethane	94		92		70-130	2		20
Chloroform	92		90		70-130	2		20
Carbon tetrachloride	97		92		70-130	5		20
1,2-Dichloropropane	94		91		70-130	3		20
Dibromochloromethane	90		90		70-130	0		20
1,1,2-Trichloroethane	88		90		70-130	2		20
Tetrachloroethene	97		94		70-130	3		20
Chlorobenzene	92		91		70-130	1		20
Trichlorofluoromethane	109		106		70-130	3		20
1,2-Dichloroethane	95		95		70-130	0		20
1,1,1-Trichloroethane	99		95		70-130	4		20
Bromodichloromethane	90		89		70-130	1		20
trans-1,3-Dichloropropene	89		90		70-130	1		20
cis-1,3-Dichloropropene	96		94		70-130	2		20
1,1-Dichloropropene	103		99		70-130	4		20
Bromoform	80		86		70-130	7		20
1,1,2,2-Tetrachloroethane	80		88		70-130	10		20
Benzene	94		91		70-130	3		20
Toluene	82		81		70-130	1		20
Ethylbenzene	89		88		70-130	1		20
Chloromethane	113		108		70-130	5		20
Bromomethane	105		101		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1662849-3 WG1662849-4								
Vinyl chloride	110		107		70-130	3		20
Chloroethane	103		99		70-130	4		20
1,1-Dichloroethene	103		100		70-130	3		20
trans-1,2-Dichloroethene	92		91		70-130	1		20
Trichloroethene	95		92		70-130	3		20
1,2-Dichlorobenzene	85		89		70-130	5		20
1,3-Dichlorobenzene	85		89		70-130	5		20
1,4-Dichlorobenzene	79		83		70-130	5		20
Methyl tert butyl ether	99		100		70-130	1		20
p/m-Xylene	90		88		70-130	2		20
o-Xylene	92		91		70-130	1		20
cis-1,2-Dichloroethene	89		88		70-130	1		20
Dibromomethane	95		93		70-130	2		20
1,2,3-Trichloropropane	81		89		70-130	9		20
Styrene	91		90		70-130	1		20
Dichlorodifluoromethane	**153**	Q	**150**	Q	70-130	2		20
Acetone	107		107		70-130	0		20
Carbon disulfide	104		100		70-130	4		20
Methyl ethyl ketone	89		95		70-130	7		20
Methyl isobutyl ketone	81		86		70-130	6		20
2-Hexanone	80		85		70-130	6		20
Bromochloromethane	96		95		70-130	1		20
Tetrahydrofuran	97		102		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1662849-3 WG1662849-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
2,2-Dichloropropane	97		90		70-130	7		20
1,2-Dibromoethane	90		92		70-130	2		20
1,3-Dichloropropane	91		92		70-130	1		20
1,1,1,2-Tetrachloroethane	91		90		70-130	1		20
Bromobenzene	83		88		70-130	6		20
n-Butylbenzene	87		89		70-130	2		20
sec-Butylbenzene	87		90		70-130	3		20
tert-Butylbenzene	84		87		70-130	4		20
o-Chlorotoluene	83		86		70-130	4		20
p-Chlorotoluene	84		87		70-130	4		20
1,2-Dibromo-3-chloropropane	76		85		70-130	11		20
Hexachlorobutadiene	86		89		70-130	3		20
Isopropylbenzene	84		87		70-130	4		20
p-Isopropyltoluene	87		90		70-130	3		20
Naphthalene	80		88		70-130	10		20
n-Propylbenzene	86		89		70-130	3		20
1,2,3-Trichlorobenzene	86		92		70-130	7		20
1,2,4-Trichlorobenzene	87		91		70-130	4		20
1,3,5-Trimethylbenzene	85		88		70-130	3		20
1,2,4-Trimethylbenzene	84		87		70-130	4		20
Diethyl ether	92		95		70-130	3		20
Diisopropyl Ether	93		92		70-130	1		20
Ethyl-Tert-Butyl-Ether	98		96		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235654

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1662849-3 WG1662849-4								
Tertiary-Amyl Methyl Ether	94		93		70-130	1		20
1,4-Dioxane	85		86		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		104		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	93		96		70-130
Dibromofluoromethane	101		103		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02
Client ID: HA22-B5_0.5-2.6
Sample Location: BOSTON, MA

Date Collected: 07/05/22 13:45
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/09/22 20:35
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/06/22 19:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	1200		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	74	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	74	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	74	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	74	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	12000	E	ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	74	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	74	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	280		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	74	--	1
Benzo(a)anthracene	5600		ug/kg	100	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235654

Project Number: 134206-006 **Report Date:** 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02 Date Collected: 07/05/22 13:45

Client ID: HA22-B5_0.5-2.6 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	5800		ug/kg	140	--	1
Benzo(b)fluoranthene	7200	E	ug/kg	100	--	1
Benzo(k)fluoranthene	1500		ug/kg	100	--	1
Chrysene	5200		ug/kg	100	--	1
Acenaphthylene	180		ug/kg	140	--	1
Anthracene	2600		ug/kg	100	--	1
Benzo(ghi)perylene	2600		ug/kg	140	--	1
Fluorene	960		ug/kg	180	--	1
Phenanthrene	10000	E	ug/kg	100	--	1
Dibenzo(a,h)anthracene	640		ug/kg	74	--	1
Indeno(1,2,3-cd)pyrene	3000		ug/kg	140	--	1
Pyrene	10000	E	ug/kg	100	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	830		ug/kg	180	--	1
2-Methylnaphthalene	230		ug/kg	74	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	74	--	1
2-Chlorophenol	ND		ug/kg	74	--	1
2,4-Dichlorophenol	ND		ug/kg	74	--	1
2,4-Dimethylphenol	ND		ug/kg	74	--	1
2-Nitrophenol	ND		ug/kg	380	--	1
4-Nitrophenol	ND		ug/kg	240	--	1
2,4-Dinitrophenol	ND		ug/kg	840	--	1
Pentachlorophenol	ND		ug/kg	350	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	190	--	1
Biphenyl	78		ug/kg	35	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235654

Project Number: 134206-006 **Report Date:** 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02 Date Collected: 07/05/22 13:45

Client ID: HA22-B5_0.5-2.6 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		30-130
Phenol-d6	78		30-130
Nitrobenzene-d5	68		30-130
2-Fluorobiphenyl	85		30-130
2,4,6-Tribromophenol	106		30-130
4-Terphenyl-d14	94		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02 D
Client ID: HA22-B5_0.5-2.6
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/15/22 09:57
Analyst: JG
Percent Solids: 94%

Date Collected: 07/05/22 13:45
Date Received: 07/05/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/06/22 19:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	8400		ug/kg	520	--	5
Benzo(b)fluoranthene	4600		ug/kg	520	--	5
Phenanthrene	7800		ug/kg	520	--	5
Pyrene	7200		ug/kg	520	--	5

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/06/22 23:08
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/06/22 03:58

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1659191-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	170	--
Hexachlorobenzene	ND		ug/kg	70	--
Bis(2-chloroethyl)ether	ND		ug/kg	70	--
2-Chloronaphthalene	ND		ug/kg	170	--
1,2-Dichlorobenzene	ND		ug/kg	170	--
1,3-Dichlorobenzene	ND		ug/kg	170	--
1,4-Dichlorobenzene	ND		ug/kg	70	--
3,3'-Dichlorobenzidine	ND		ug/kg	170	--
2,4-Dinitrotoluene	ND		ug/kg	70	--
2,6-Dinitrotoluene	ND		ug/kg	170	--
Azobenzene	ND		ug/kg	170	--
Fluoranthene	ND		ug/kg	100	--
4-Bromophenyl phenyl ether	ND		ug/kg	170	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	70	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	170	--
Hexachloroethane	ND		ug/kg	70	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	170	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--
Butyl benzyl phthalate	ND		ug/kg	170	--
Di-n-butylphthalate	ND		ug/kg	170	--
Di-n-octylphthalate	ND		ug/kg	170	--
Diethyl phthalate	ND		ug/kg	170	--
Dimethyl phthalate	ND		ug/kg	70	--
Benzo(a)anthracene	ND		ug/kg	100	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/06/22 23:08
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/06/22 03:58

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1659191-1					
Benzo(b)fluoranthene	ND		ug/kg	100	--
Benzo(k)fluoranthene	ND		ug/kg	100	--
Chrysene	ND		ug/kg	100	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	100	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	170	--
Phenanthrene	ND		ug/kg	100	--
Dibenzo(a,h)anthracene	ND		ug/kg	70	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	100	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	170	--
Dibenzofuran	ND		ug/kg	170	--
2-Methylnaphthalene	ND		ug/kg	70	--
Acetophenone	ND		ug/kg	170	--
2,4,6-Trichlorophenol	ND		ug/kg	70	--
2-Chlorophenol	ND		ug/kg	70	--
2,4-Dichlorophenol	ND		ug/kg	70	--
2,4-Dimethylphenol	ND		ug/kg	70	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	800	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	170	--
2-Methylphenol	ND		ug/kg	170	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	170	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/06/22 23:08
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/06/22 03:58

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1659191-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	69		30-130
2-Fluorobiphenyl	84		30-130
2,4,6-Tribromophenol	99		30-130
4-Terphenyl-d14	88		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1659191-2 WG1659191-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Acenaphthene	82		90		40-140	9		30
1,2,4-Trichlorobenzene	82		94		40-140	14		30
Hexachlorobenzene	91		99		40-140	8		30
Bis(2-chloroethyl)ether	72		82		40-140	13		30
2-Chloronaphthalene	90		93		40-140	3		30
1,2-Dichlorobenzene	77		89		40-140	14		30
1,3-Dichlorobenzene	75		86		40-140	14		30
1,4-Dichlorobenzene	76		85		40-140	11		30
3,3'-Dichlorobenzidine	64		73		40-140	13		30
2,4-Dinitrotoluene	86		91		40-140	6		30
2,6-Dinitrotoluene	98		89		40-140	10		30
Azobenzene	80		89		40-140	11		30
Fluoranthene	72		95		40-140	28		30
4-Bromophenyl phenyl ether	88		95		40-140	8		30
Bis(2-chloroisopropyl)ether	65		71		40-140	9		30
Bis(2-chloroethoxy)methane	77		85		40-140	10		30
Hexachlorobutadiene	86		94		40-140	9		30
Hexachloroethane	82		89		40-140	8		30
Isophorone	73		79		40-140	8		30
Naphthalene	80		88		40-140	10		30
Nitrobenzene	81		83		40-140	2		30
Bis(2-ethylhexyl)phthalate	97		104		40-140	7		30
Butyl benzyl phthalate	74		102		40-140	**32**	Q	30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1659191-2 WG1659191-3								
Di-n-butylphthalate	73		96		40-140	27		30
Di-n-octylphthalate	89		106		40-140	17		30
Diethyl phthalate	87		93		40-140	7		30
Dimethyl phthalate	95		90		40-140	5		30
Benzo(a)anthracene	86		94		40-140	9		30
Benzo(a)pyrene	86		97		40-140	12		30
Benzo(b)fluoranthene	86		100		40-140	15		30
Benzo(k)fluoranthene	87		101		40-140	15		30
Chrysene	87		96		40-140	10		30
Acenaphthylene	97		91		40-140	6		30
Anthracene	73		90		40-140	21		30
Benzo(ghi)perylene	81		92		40-140	13		30
Fluorene	87		93		40-140	7		30
Phenanthrene	80		88		40-140	10		30
Dibenzo(a,h)anthracene	75		88		40-140	16		30
Indeno(1,2,3-cd)pyrene	86		97		40-140	12		30
Pyrene	71		94		40-140	28		30
Aniline	50		53		40-140	6		30
4-Chloroaniline	56		62		40-140	10		30
Dibenzofuran	88		93		40-140	6		30
2-Methylnaphthalene	88		92		40-140	4		30
Acetophenone	77		82		40-140	6		30
2,4,6-Trichlorophenol	96		99		30-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235654

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1659191-2 WG1659191-3								
2-Chlorophenol	82		92		30-130	11		30
2,4-Dichlorophenol	88		97		30-130	10		30
2,4-Dimethylphenol	83		90		30-130	8		30
2-Nitrophenol	77		86		30-130	11		30
4-Nitrophenol	87		89		30-130	2		30
2,4-Dinitrophenol	54		63		30-130	15		30
Pentachlorophenol	63		70		30-130	11		30
Phenol	75		82		30-130	9		30
2-Methylphenol	83		90		30-130	8		30
3-Methylphenol/4-Methylphenol	92		94		30-130	2		30
2,4,5-Trichlorophenol	100		102		30-130	2		30
Pyridine	43		47		30-130	9		30
Biphenyl	86		88		40-140	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	85		95		30-130
Phenol-d6	85		94		30-130
Nitrobenzene-d5	84		88		30-130
2-Fluorobiphenyl	95		98		30-130
2,4,6-Tribromophenol	95		104		30-130
4-Terphenyl-d14	75		97		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02
Client ID: HA22-B5_0.5-2.6
Sample Location: BOSTON, MA

Date Collected: 07/05/22 13:45
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/07/22 18:36
Analyst: SC
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/06/22 19:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	156000		ug/kg	34200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	77		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/07/22 09:32
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 07/06/22 19:40

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 02 Batch: WG1659585-1					
TPH (C10-C36)	ND		ug/kg	32200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235654

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 02 Batch: WG1659585-2								
TPH (C10-C36)	80		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	76				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02
Client ID: HA22-B5_0.5-2.6
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/07/22 18:25
Analyst: JM
Percent Solids: 94%

Date Collected: 07/05/22 13:45
Date Received: 07/05/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/06/22 21:21
Cleanup Method: EPA 3665A
Cleanup Date: 07/07/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/07/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.9	--	1	A
Aroclor 1221	ND		ug/kg	33.9	--	1	A
Aroclor 1232	ND		ug/kg	33.9	--	1	A
Aroclor 1242	ND		ug/kg	33.9	--	1	A
Aroclor 1248	ND		ug/kg	33.9	--	1	A
Aroclor 1254	ND		ug/kg	33.9	--	1	A
Aroclor 1260	ND		ug/kg	33.9	--	1	B
Aroclor 1262	ND		ug/kg	33.9	--	1	A
Aroclor 1268	ND		ug/kg	33.9	--	1	A
PCBs, Total	ND		ug/kg	33.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	69		30-150	B
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	64		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/07/22 16:56
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 07/06/22 21:21
Cleanup Method: EPA 3665A
Cleanup Date: 07/07/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/07/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02 Batch: WG1659603-1						
Aroclor 1016	ND		ug/kg	31.9	--	A
Aroclor 1221	ND		ug/kg	31.9	--	A
Aroclor 1232	ND		ug/kg	31.9	--	A
Aroclor 1242	ND		ug/kg	31.9	--	A
Aroclor 1248	ND		ug/kg	31.9	--	A
Aroclor 1254	ND		ug/kg	31.9	--	A
Aroclor 1260	ND		ug/kg	31.9	--	A
Aroclor 1262	ND		ug/kg	31.9	--	A
Aroclor 1268	ND		ug/kg	31.9	--	A
PCBs, Total	ND		ug/kg	31.9	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	92		30-150	B
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	80		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235654

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02 Batch: WG1659603-2 WG1659603-3									
Aroclor 1016	82		79		40-140	4		30	A
Aroclor 1260	71		71		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		89		30-150	B
Decachlorobiphenyl	82		88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	88		87		30-150	A
Decachlorobiphenyl	80		82		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2235654
Project Number: 134206-006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02
Client ID: HA22-B5_0.5-2.6
Sample Location: BOSTON, MA

Date Collected: 07/05/22 13:45
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.02	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Arsenic, Total	1.80		mg/kg	0.404	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Barium, Total	15.6		mg/kg	0.404	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.202	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.404	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Chromium, Total	4.82		mg/kg	0.404	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Lead, Total	42.3		mg/kg	2.02	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Mercury, Total	0.289		mg/kg	0.075	--	1	07/12/22 13:45	07/12/22 18:53	EPA 7471B	97,7471B	DMB
Nickel, Total	5.17		mg/kg	1.01	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.02	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.404	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.02	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Vanadium, Total	8.57		mg/kg	0.404	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC
Zinc, Total	33.9		mg/kg	2.02	--	1	07/12/22 11:30	07/13/22 23:13	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235654

Project Number: 134206-006 **Report Date:** 07/19/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1661457-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	07/12/22 11:30	07/13/22 20:37	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1661458-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/12/22 13:45	07/12/22 17:57	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1661457-2 WG1661457-3 SRM Lot Number: D113-540								
Antimony, Total	137		136		20-250	1		30
Arsenic, Total	87		87		70-130	0		30
Barium, Total	86		86		75-125	0		30
Beryllium, Total	78		82		75-125	5		30
Cadmium, Total	78		78		75-125	0		30
Chromium, Total	80		80		70-130	0		30
Lead, Total	80		80		72-128	0		30
Nickel, Total	79		81		70-130	3		30
Selenium, Total	84		86		66-134	2		30
Silver, Total	84		83		70-131	1		30
Thallium, Total	78		76		70-130	3		30
Vanadium, Total	85		85		74-126	0		30
Zinc, Total	77		78		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1661458-2 WG1661458-3 SRM Lot Number: D113-540								
Mercury, Total	81		79		60-140	3		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

SAMPLE RESULTS

Lab ID:	L2235654-02	Date Collected:	07/05/22 13:45
Client ID:	HA22-B5_0.5-2.6	Date Received:	07/05/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/11/22 05:15	1,1030	ML

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235654-02
Client ID: HA22-B5_0.5-2.6
Sample Location: BOSTON, MA

Date Collected: 07/05/22 13:45
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	63		umhos/cm	10	--	1	-	07/07/22 13:20	1,9050A	KS
Solids, Total	94.4		%	0.100	NA	1	-	07/06/22 11:37	121,2540G	RI
pH (H)	8.8		SU	-	NA	1	-	07/07/22 10:08	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/13/22 20:40	07/13/22 23:40	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/13/22 20:40	07/13/22 23:10	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-006
Lab Number: L2235654
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1662437-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/13/22 20:40	07/13/22 23:02	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1662440-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/13/22 20:40	07/13/22 23:33	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235654

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1659762-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1659777-1								
Specific Conductance	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1662437-2								
Sulfide, Reactive	92		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1662440-2								
Cyanide, Reactive	83		-		30-125	-		40

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235654-01A	Vial MeOH preserved	A	NA		3.5	Y	Absent		HOLD-8260HLW(14)
L2235654-01B	Vial water preserved	A	NA		3.5	Y	Absent	05-JUL-22 21:22	HOLD-8260HLW(14)
L2235654-01C	Vial water preserved	A	NA		3.5	Y	Absent	05-JUL-22 21:22	HOLD-8260HLW(14)
L2235654-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.5	Y	Absent		HOLD-METAL(180)
L2235654-01E	Vial Large Septa unpreserved (4oz)	A	NA		3.5	Y	Absent		HOLD-8260HLW(14)
L2235654-01F	Glass 120ml/4oz unpreserved/No Headspace	A	NA		3.5	Y	Absent		-
L2235654-01G	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Absent		HOLD-WETCHEM(),HOLD-PETRO(14),HOLD-8270(14),HOLD-8082(14)
L2235654-01H	Glass 500ml/16oz unpreserved	A	NA		3.5	Y	Absent		HOLD-WETCHEM(),HOLD-PETRO(14),HOLD-8270(14),HOLD-8082(14)
L2235654-02A	Vial MeOH preserved	A	NA		3.5	Y	Absent		MCP-8260HLW-21(14)
L2235654-02B	Vial water preserved	A	NA		3.5	Y	Absent	05-JUL-22 21:22	MCP-8260HLW-21(14)
L2235654-02C	Vial water preserved	A	NA		3.5	Y	Absent	05-JUL-22 21:22	MCP-8260HLW-21(14)
L2235654-02D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2235654-02E	Vial Large Septa unpreserved (4oz)	A	NA		3.5	Y	Absent		MCP-8260HLW-21(14)
L2235654-02F	Glass 120ml/4oz unpreserved/No Headspace	A	NA		3.5	Y	Absent		HEXCR-RELOG()
L2235654-02G	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2235654-02H	Glass 500ml/16oz unpreserved	A	NA		3.5	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235654
Report Date: 07/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235654
Project Number:	134206-006	**Report Date:**	07/19/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 7/5/22

ALPHA Job # L2235654

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project # 134206-006
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note	Sample Specific Comments	Total Bottles
35654-01	HA22-B6_1.0-6.0	7/5/2022	1000	SO/F	MJD	1-6'	x	x	x	x	x	x	x	x		8
02	HA22-B5_0.5-2.6	"	1345	SO/F	MJD	0.5-2.6	X	X	X	X	X	X	X	X		8
															LGTOTAL	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/5/2022 1455	[signature] Plum AAL	7/5/22 1455
[signature]	7/5/22 1616	[signature]	7/5/22 1616

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2235654
Project Name	: MATTHEWS ARENA-NORTHEASTERN U	**Project Number**	: 134206-006
Lab Sample ID	: WG1662849-5	**Lab File ID**	: V27220712A06
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 07/12/22 08:50

Client Sample No.	Lab Sample ID	Analysis Date
WG1662849-3LCS	WG1662849-3	07/12/22 07:31
WG1662849-4LCSD	WG1662849-4	07/12/22 08:11
HA22-B5_0.5-2.6	L2235654-02	07/12/22 13:28

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2235654		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA127	Calibration Date	: 07/12/22 07:31		
Lab File ID	: V27220712A02	Init. Calib. Date(s)	: 07/06/22	07/06/22	
Sample No	: WG1662849-2	Init. Calib. Times	: 14:11	16:50	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	95	0
Dichlorodifluoromethane	0.149	0.227	-	-52.3*	20	140	0
Chloromethane	0.16	0.181	-	-13.1	20	107	-.01
Vinyl chloride	0.185	0.205	-	-10.8	20	100	0
Bromomethane	40	42.177	-	-5.4	20	98	0
Chloroethane	0.122	0.126	-	-3.3	20	98	0
Trichlorofluoromethane	0.316	0.345	-	-9.2	20	96	0
Ethyl ether	0.116	0.107	-	7.8	20	93	0
1,1-Dichloroethene	0.198	0.203	-	-2.5	20	92	0
Carbon disulfide	0.553	0.573	-	-3.6	20	97	0
Freon-113	0.209	0.219	-	-4.8	20	95	0
Acrolein	0.023	0.029	-	-26.1*	20	118	0
Methylene chloride	40	37.452	-	6.4	20	89	0
Acetone	40	42.776	-	-6.9	20	95	0
trans-1,2-Dichloroethene	0.249	0.23	-	7.6	20	88	0
Methyl acetate	0.117	0.112	-	4.3	20	93	0
Methyl tert-butyl ether	0.608	0.603	-	0.8	20	94	0
tert-Butyl alcohol	0.031	0.023	-	25.8*	20	78	0
Diisopropyl ether	0.613	0.571	-	6.9	20	88	0
1,1-Dichloroethane	0.378	0.355	-	6.1	20	89	0
Halothane	0.198	0.186	-	6.1	20	90	0
Acrylonitrile	40	36.29	-	9.3	20	85	0
Ethyl tert-butyl ether	0.67	0.654	-	2.4	20	90	0
Vinyl acetate	0.465	0.397	-	14.6	20	80	0
cis-1,2-Dichloroethene	0.289	0.257	-	11.1	20	87	0
2,2-Dichloropropane	0.369	0.359	-	2.7	20	89	0
Bromochloromethane	0.143	0.138	-	3.5	20	90	0
Cyclohexane	0.325	0.325	-	0	20	91	0
Chloroform	0.454	0.418	-	7.9	20	89	0
Ethyl acetate	0.183	0.168	-	8.2	20	86	0
Carbon tetrachloride	0.337	0.328	-	2.7	20	90	0
Tetrahydrofuran	40	38.963	-	2.6	20	91	0
Dibromofluoromethane	0.253	0.256	-	-1.2	20	97	0
1,1,1-Trichloroethane	0.362	0.358	-	1.1	20	90	0
2-Butanone	0.084	0.075	-	10.7	20	87	0
1,1-Dichloropropene	0.293	0.302	-	-3.1	20	90	0
Benzene	0.968	0.908	-	6.2	20	89	0
tert-Amyl methyl ether	0.7	0.657	-	6.1	20	89	0
1,2-Dichloroethane-d4	0.246	0.244	-	0.8	20	95	0
1,2-Dichloroethane	0.299	0.285	-	4.7	20	89	0
Methyl cyclohexane	0.415	0.42	-	-1.2	20	90	0
Trichloroethene	0.273	0.259	-	5.1	20	89	0
Dibromomethane	0.157	0.149	-	5.1	20	90	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2235654		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA127	Calibration Date	: 07/12/22 07:31		
Lab File ID	: V27220712A02	Init. Calib. Date(s)	: 07/06/22	07/06/22	
Sample No	: WG1662849-2	Init. Calib. Times	: 14:11	16:50	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.232	0.218	-	6	20	88	0
2-Chloroethyl vinyl ether	0.149	0.137	-	8.1	20	87	0
Bromodichloromethane	0.361	0.327	-	9.4	20	88	0
1,4-Dioxane	0.00271	0.00232*	-	14.4	20	79	0
cis-1,3-Dichloropropene	0.405	0.388	-	4.2	20	88	0
Chlorobenzene-d5	1	1	-	0	20	101	0
Toluene-d8	1.259	1.226	-	2.6	20	99	0
Toluene	0.871	0.716	-	17.8	20	88	0
4-Methyl-2-pentanone	0.106	0.086	-	18.9	20	82	0
Tetrachloroethene	0.405	0.392	-	3.2	20	91	0
trans-1,3-Dichloropropene	0.468	0.418	-	10.7	20	88	0
Ethyl methacrylate	0.393	0.35	-	10.9	20	89	0
1,1,2-Trichloroethane	0.23	0.203	-	11.7	20	90	0
Chlorodibromomethane	0.359	0.322	-	10.3	20	89	0
1,3-Dichloropropane	0.456	0.417	-	8.6	20	90	0
1,2-Dibromoethane	0.293	0.263	-	10.2	20	89	0
2-Hexanone	0.181	0.145	-	19.9	20	84	0
Chlorobenzene	0.929	0.853	-	8.2	20	89	0
Ethylbenzene	1.506	1.342	-	10.9	20	89	0
1,1,1,2-Tetrachloroethane	0.359	0.328	-	8.6	20	90	0
p/m Xylene	0.604	0.542	-	10.3	20	89	0
o Xylene	0.579	0.531	-	8.3	20	89	0
Styrene	0.956	0.867	-	9.3	20	88	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	110	0
Bromoform	0.483	0.384	-	20.5*	20	85	0
Isopropylbenzene	2.743	2.311	-	15.7	20	89	0
4-Bromofluorobenzene	0.828	0.773	-	6.6	20	103	0
Bromobenzene	0.809	0.674	-	16.7	20	90	0
n-Propylbenzene	3.053	2.629	-	13.9	20	90	0
1,4-Dichlorobutane	0.712	0.617	-	13.3	20	95	0
1,1,2,2-Tetrachloroethane	0.632	0.504	-	20.3*	20	89	0
4-Ethyltoluene	2.66	2.296	-	13.7	20	92	0
2-Chlorotoluene	1.914	1.589	-	17	20	91	0
1,3,5-Trimethylbenzene	2.301	1.953	-	15.1	20	90	0
1,2,3-Trichloropropane	0.519	0.418	-	19.5	20	87	0
trans-1,4-Dichloro-2-buten	0.178	0.145	-	18.5	20	95	0
4-Chlorotoluene	1.947	1.641	-	15.7	20	91	0
tert-Butylbenzene	2.057	1.727	-	16	20	89	0
1,2,4-Trimethylbenzene	2.305	1.931	-	16.2	20	90	0
sec-Butylbenzene	2.908	2.529	-	13	20	90	0
p-Isopropyltoluene	2.585	2.238	-	13.4	20	90	0
1,3-Dichlorobenzene	1.487	1.262	-	15.1	20	92	0
1,4-Dichlorobenzene	1.609	1.267	-	21.3*	20	91	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2235654		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA127	Calibration Date	: 07/12/22 07:31		
Lab File ID	: V27220712A02	Init. Calib. Date(s)	: 07/06/22	07/06/22	
Sample No	: WG1662849-2	Init. Calib. Times	: 14:11	16:50	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.572	1.34	-	14.8	20	91	0
n-Butylbenzene	2.13	1.858	-	12.8	20	91	0
1,2-Dichlorobenzene	1.406	1.192	-	15.2	20	92	0
1,2,4,5-Tetramethylbenzene	2.498	2.1	-	15.9	20	90	0
1,2-Dibromo-3-chloropropan	0.135	0.103	-	23.7*	20	82	0
1,3,5-Trichlorobenzene	1.218	1.066	-	12.5	20	95	0
Hexachlorobutadiene	0.675	0.577	-	14.5	20	90	0
1,2,4-Trichlorobenzene	1.111	0.962	-	13.4	20	95	0
Naphthalene	2.306	1.857	-	19.5	20	89	0
1,2,3-Trichlorobenzene	1.033	0.889	-	13.9	20	94	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2235914
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-006
Report Date:	07/20/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2235914-01	HA22-B2_0.5-5.0	SOIL	BOSTON, MA	07/06/22 10:55	07/06/22
L2235914-02	HA22-TP2_0.7-4.0	SOIL	BOSTON, MA	07/06/22 12:00	07/06/22
L2235914-03	HA22-B1_0.7-3.0	SOIL	BOSTON, MA	07/06/22 13:00	07/06/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2235914-03: The surrogate recovery is below the acceptance criteria for dibromofluoromethane (58%), possibly due to the matrix effect caused by the high pH of the sample (>10).

L2235914-01 through -03: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0024)

Average Response Factor: 1,4-dioxane

L2235914-01 through -03: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

In reference to question H:

L2235914-03: The surrogate recoveries were outside the acceptance criteria for 2-fluorophenol (5%) and 2,4,6-tribromophenol (2%); however, re-extraction achieved similar results: 2-fluorophenol (6%), Phenol-d6 (27%), and 2,4,6-tribromophenol (6%). The results of both extractions are reported; however, all associated compounds are considered to have a potential bias.

The surrogate recoveries for the WG1664950-2 LCS, associated with L2235914-03RE, are outside the acceptance criteria for 2-fluorophenol (27%), phenol-d6 (28%), nitrobenzene-d5 (25%), 2-fluorobiphenyl (27%) and 4-terphenyl-d14 (27%). The LCS spike compounds are within overall method allowances; therefore, no further action was taken.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

Case Narrative (continued)

The surrogate recoveries for the WG1664950-3 LCSD, associated with L2235914-03RE, are outside the acceptance criteria for 2-fluorophenol (22%), phenol-d6 (23%), nitrobenzene-d5 (20%), 2-fluorobiphenyl (22%), 2,4,6-tribromophenol (28%) and 4-terphenyl-d14 (22%). The LCSD spike compounds are within overall method allowances; therefore, no further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 07/20/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	HA22-B1_0.7-3.0	L2235914-03	Dibromofluoromethane	Surrogate	58	70-130	-	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270E	HA22-B1_0.7-3.0	L2235914-03	2-Fluorophenol	Surrogate	5	30-130	-	potential low bias
8270E	HA22-B1_0.7-3.0	L2235914-03	2,4,6-Tribromophenol	Surrogate	2	30-130	-	potential low bias
8270E	HA22-B1_0.7-3.0	L2235914-03 RE	2-Fluorophenol	Surrogate	6	30-130	-	potential low bias
8270E	HA22-B1_0.7-3.0	L2235914-03 RE	Phenol-d6	Surrogate	27	30-130	-	potential low bias
8270E	HA22-B1_0.7-3.0	L2235914-03 RE	2,4,6-Tribromophenol	Surrogate	6	30-130	-	potential low bias
8270E	Laboratory Method Bl	WG1664950-1	Nitrobenzene-d5	Surrogate	28	30-130	-	potential low bias
8270E	Batch QC	WG1664950-2	Aniline	LCS	38	40-140	03	potential low bias
8270E	Batch QC	WG1664950-2	2-Fluorophenol	Surrogate	27	30-130	-	potential low bias
8270E	Batch QC	WG1664950-2	Phenol-d6	Surrogate	28	30-130	-	potential low bias
8270E	Batch QC	WG1664950-2	Nitrobenzene-d5	Surrogate	25	30-130	-	potential low bias
8270E	Batch QC	WG1664950-2	2-Fluorobiphenyl	Surrogate	27	30-130	-	potential low bias
8270E	Batch QC	WG1664950-2	4-Terphenyl-d14	Surrogate	27	30-130	-	potential low bias
8270E	Batch QC	WG1664950-3	Bis(2-chloroisopropyl)ether	LCSD	38	40-140	03	potential low bias
8270E	Batch QC	WG1664950-3	Bis(2-ethylhexyl)phthalate	LCSD	37	40-140	03	potential low bias
8270E	Batch QC	WG1664950-3	Di-n-octylphthalate	LCSD	39	40-140	03	potential low bias
8270E	Batch QC	WG1664950-3	4-Chloroaniline	LCSD	39	40-140	03	potential low bias
8270E	Batch QC	WG1664950-3	2-Fluorophenol	Surrogate	22	30-130	-	potential low bias
8270E	Batch QC	WG1664950-3	Phenol-d6	Surrogate	23	30-130	-	potential low bias
8270E	Batch QC	WG1664950-3	Nitrobenzene-d5	Surrogate	20	30-130	-	potential low bias
8270E	Batch QC	WG1664950-3	2-Fluorobiphenyl	Surrogate	22	30-130	-	potential low bias
8270E	Batch QC	WG1664950-3	2,4,6-Tribromophenol	Surrogate	28	30-130	-	potential low bias
8270E	Batch QC	WG1664950-3	4-Terphenyl-d14	Surrogate	22	30-130	-	potential low bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01
Client ID: HA22-B2_0.5-5.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 10:55
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/15/22 13:12
Analyst: LAC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	ND		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01 Date Collected: 07/06/22 10:55

Client ID: HA22-B2_0.5-5.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	39		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	ND		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01 Date Collected: 07/06/22 10:55

Client ID: HA22-B2_0.5-5.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	61	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	110		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02
Client ID: HA22-TP2_0.7-4.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 12:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/15/22 13:32
Analyst: LAC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.9	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.8	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	1.2	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.59	--	1
Chlorobenzene	ND		ug/kg	0.59	--	1
Trichlorofluoromethane	ND		ug/kg	4.7	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.59	--	1
Bromodichloromethane	ND		ug/kg	0.59	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.59	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.59	--	1
1,1-Dichloropropene	ND		ug/kg	0.59	--	1
Bromoform	ND		ug/kg	4.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.59	--	1
Benzene	ND		ug/kg	0.59	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	4.7	--	1
Bromomethane	ND		ug/kg	2.4	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.4	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02 Date Collected: 07/06/22 12:00

Client ID: HA22-TP2_0.7-4.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.59	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	--	1
Methyl tert butyl ether	ND		ug/kg	2.4	--	1
p/m-Xylene	ND		ug/kg	2.4	--	1
o-Xylene	ND		ug/kg	1.2	--	1
Xylenes, Total	ND		ug/kg	1.2	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	2.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.4	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	39		ug/kg	30	--	1
Carbon disulfide	ND		ug/kg	12	--	1
Methyl ethyl ketone	ND		ug/kg	12	--	1
Methyl isobutyl ketone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	2.4	--	1
Tetrahydrofuran	ND		ug/kg	4.7	--	1
2,2-Dichloropropane	ND		ug/kg	2.4	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.59	--	1
Bromobenzene	ND		ug/kg	2.4	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.4	--	1
o-Chlorotoluene	ND		ug/kg	2.4	--	1
p-Chlorotoluene	ND		ug/kg	2.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.5	--	1
Hexachlorobutadiene	ND		ug/kg	4.7	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	4.7	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02 Date Collected: 07/06/22 12:00

Client ID: HA22-TP2_0.7-4.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	--	1
Diethyl ether	ND		ug/kg	2.4	--	1
Diisopropyl Ether	ND		ug/kg	2.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.4	--	1
1,4-Dioxane	ND		ug/kg	94	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	107		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03
Client ID: HA22-B1_0.7-3.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 13:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/15/22 13:53
Analyst: LAC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	ND		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03 Date Collected: 07/06/22 13:00

Client ID: HA22-B1_0.7-3.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	ND		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	ND		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03 Date Collected: 07/06/22 13:00

Client ID: HA22-B1_0.7-3.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	61	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	**58**	Q	70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 08:21
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03 Batch: WG1664130-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 08:21
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03 Batch: WG1664130-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 08:21
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03 Batch: WG1664130-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03 Batch: WG1664130-3 WG1664130-4								
Methylene chloride	93		92		70-130	1		20
1,1-Dichloroethane	90		89		70-130	1		20
Chloroform	92		92		70-130	0		20
Carbon tetrachloride	88		88		70-130	0		20
1,2-Dichloropropane	93		91		70-130	2		20
Dibromochloromethane	96		94		70-130	2		20
1,1,2-Trichloroethane	94		92		70-130	2		20
Tetrachloroethene	93		91		70-130	2		20
Chlorobenzene	92		91		70-130	1		20
Trichlorofluoromethane	93		91		70-130	2		20
1,2-Dichloroethane	92		90		70-130	2		20
1,1,1-Trichloroethane	92		90		70-130	2		20
Bromodichloromethane	92		91		70-130	1		20
trans-1,3-Dichloropropene	95		92		70-130	3		20
cis-1,3-Dichloropropene	93		91		70-130	2		20
1,1-Dichloropropene	95		92		70-130	3		20
Bromoform	93		88		70-130	6		20
1,1,2,2-Tetrachloroethane	88		78		70-130	12		20
Benzene	92		90		70-130	2		20
Toluene	89		87		70-130	2		20
Ethylbenzene	91		89		70-130	2		20
Chloromethane	82		83		70-130	1		20
Bromomethane	110		107		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03 Batch: WG1664130-3 WG1664130-4								
Vinyl chloride	90		88		70-130	2		20
Chloroethane	88		86		70-130	2		20
1,1-Dichloroethene	89		87		70-130	2		20
trans-1,2-Dichloroethene	91		89		70-130	2		20
Trichloroethene	97		100		70-130	3		20
1,2-Dichlorobenzene	92		88		70-130	4		20
1,3-Dichlorobenzene	93		89		70-130	4		20
1,4-Dichlorobenzene	92		88		70-130	4		20
Methyl tert butyl ether	93		90		70-130	3		20
p/m-Xylene	92		90		70-130	2		20
o-Xylene	92		91		70-130	1		20
cis-1,2-Dichloroethene	91		89		70-130	2		20
Dibromomethane	90		89		70-130	1		20
1,2,3-Trichloropropane	94		88		70-130	7		20
Styrene	94		92		70-130	2		20
Dichlorodifluoromethane	88		87		70-130	1		20
Acetone	96		97		70-130	1		20
Carbon disulfide	91		88		70-130	3		20
Methyl ethyl ketone	76		79		70-130	4		20
Methyl isobutyl ketone	94		93		70-130	1		20
2-Hexanone	89		89		70-130	0		20
Bromochloromethane	93		90		70-130	3		20
Tetrahydrofuran	84		81		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03 Batch: WG1664130-3 WG1664130-4								
2,2-Dichloropropane	91		88		70-130	3		20
1,2-Dibromoethane	95		94		70-130	1		20
1,3-Dichloropropane	93		92		70-130	1		20
1,1,1,2-Tetrachloroethane	95		92		70-130	3		20
Bromobenzene	92		89		70-130	3		20
n-Butylbenzene	90		86		70-130	5		20
sec-Butylbenzene	88		86		70-130	2		20
tert-Butylbenzene	89		85		70-130	5		20
o-Chlorotoluene	94		89		70-130	5		20
p-Chlorotoluene	93		89		70-130	4		20
1,2-Dibromo-3-chloropropane	88		88		70-130	0		20
Hexachlorobutadiene	89		87		70-130	2		20
Isopropylbenzene	90		86		70-130	5		20
p-Isopropyltoluene	90		87		70-130	3		20
Naphthalene	95		92		70-130	3		20
n-Propylbenzene	91		86		70-130	6		20
1,2,3-Trichlorobenzene	92		89		70-130	3		20
1,2,4-Trichlorobenzene	94		90		70-130	4		20
1,3,5-Trimethylbenzene	91		86		70-130	6		20
1,2,4-Trimethylbenzene	92		88		70-130	4		20
Diethyl ether	92		87		70-130	6		20
Diisopropyl Ether	94		91		70-130	3		20
Ethyl-Tert-Butyl-Ether	95		92		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03 Batch: WG1664130-3 WG1664130-4								
Tertiary-Amyl Methyl Ether	94		92		70-130	2		20
1,4-Dioxane	96		102		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		96		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	101		97		70-130
Dibromofluoromethane	99		97		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01
Client ID: HA22-B2_0.5-5.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 10:55
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/12/22 05:23
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/07/22 23:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	--	1
Hexachlorobenzene	ND		ug/kg	73	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	73	--	1
2-Chloronaphthalene	ND		ug/kg	170	--	1
1,2-Dichlorobenzene	ND		ug/kg	170	--	1
1,3-Dichlorobenzene	ND		ug/kg	170	--	1
1,4-Dichlorobenzene	ND		ug/kg	73	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	--	1
2,4-Dinitrotoluene	ND		ug/kg	73	--	1
2,6-Dinitrotoluene	ND		ug/kg	170	--	1
Azobenzene	ND		ug/kg	170	--	1
Fluoranthene	1200		ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	73	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	170	--	1
Hexachloroethane	ND		ug/kg	73	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	170	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--	1
Butyl benzyl phthalate	ND		ug/kg	170	--	1
Di-n-butylphthalate	ND		ug/kg	170	--	1
Di-n-octylphthalate	ND		ug/kg	170	--	1
Diethyl phthalate	ND		ug/kg	170	--	1
Dimethyl phthalate	ND		ug/kg	73	--	1
Benzo(a)anthracene	640		ug/kg	100	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01 Date Collected: 07/06/22 10:55

Client ID: HA22-B2_0.5-5.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	680		ug/kg	140	--	1
Benzo(b)fluoranthene	880		ug/kg	100	--	1
Benzo(k)fluoranthene	270		ug/kg	100	--	1
Chrysene	620		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	240		ug/kg	100	--	1
Benzo(ghi)perylene	360		ug/kg	140	--	1
Fluorene	ND		ug/kg	170	--	1
Phenanthrene	700		ug/kg	100	--	1
Dibenzo(a,h)anthracene	99		ug/kg	73	--	1
Indeno(1,2,3-cd)pyrene	430		ug/kg	140	--	1
Pyrene	1000		ug/kg	100	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	170	--	1
Dibenzofuran	ND		ug/kg	170	--	1
2-Methylnaphthalene	ND		ug/kg	73	--	1
Acetophenone	ND		ug/kg	170	--	1
2,4,6-Trichlorophenol	ND		ug/kg	73	--	1
2-Chlorophenol	ND		ug/kg	73	--	1
2,4-Dichlorophenol	ND		ug/kg	73	--	1
2,4-Dimethylphenol	ND		ug/kg	73	--	1
2-Nitrophenol	ND		ug/kg	370	--	1
4-Nitrophenol	ND		ug/kg	240	--	1
2,4-Dinitrophenol	ND		ug/kg	830	--	1
Pentachlorophenol	ND		ug/kg	350	--	1
Phenol	ND		ug/kg	170	--	1
2-Methylphenol	ND		ug/kg	170	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	--	1
2,4,5-Trichlorophenol	ND		ug/kg	170	--	1
Pyridine	ND		ug/kg	190	--	1
Biphenyl	ND		ug/kg	35	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01 Date Collected: 07/06/22 10:55

Client ID: HA22-B2_0.5-5.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP Semivolatile Organics - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	68		30-130
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	117		30-130
4-Terphenyl-d14	65		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02
Client ID: HA22-TP2_0.7-4.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 12:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/12/22 03:08
Analyst: JG
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/07/22 23:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	75	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	75	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	75	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	75	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	700		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	75	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	75	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	75	--	1
Benzo(a)anthracene	420		ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02 Date Collected: 07/06/22 12:00

Client ID: HA22-TP2_0.7-4.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	410		ug/kg	140	--	1
Benzo(b)fluoranthene	480		ug/kg	110	--	1
Benzo(k)fluoranthene	150		ug/kg	110	--	1
Chrysene	430		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	110		ug/kg	110	--	1
Benzo(ghi)perylene	180		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	450		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	75	--	1
Indeno(1,2,3-cd)pyrene	210		ug/kg	140	--	1
Pyrene	640		ug/kg	110	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	75	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	75	--	1
2-Chlorophenol	ND		ug/kg	75	--	1
2,4-Dichlorophenol	ND		ug/kg	75	--	1
2,4-Dimethylphenol	ND		ug/kg	75	--	1
2-Nitrophenol	ND		ug/kg	390	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	860	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	190	--	1
Biphenyl	ND		ug/kg	36	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02 Date Collected: 07/06/22 12:00

Client ID: HA22-TP2_0.7-4.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	68		30-130
Phenol-d6	63		30-130
Nitrobenzene-d5	65		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	109		30-130
4-Terphenyl-d14	69		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03
Client ID: HA22-B1_0.7-3.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 13:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/12/22 03:31
Analyst: JG
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/07/22 23:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	280		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	--	1
Hexachlorobenzene	ND		ug/kg	71	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	71	--	1
2-Chloronaphthalene	ND		ug/kg	170	--	1
1,2-Dichlorobenzene	ND		ug/kg	170	--	1
1,3-Dichlorobenzene	ND		ug/kg	170	--	1
1,4-Dichlorobenzene	ND		ug/kg	71	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	--	1
2,4-Dinitrotoluene	ND		ug/kg	71	--	1
2,6-Dinitrotoluene	ND		ug/kg	170	--	1
Azobenzene	ND		ug/kg	170	--	1
Fluoranthene	4800		ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	71	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--	1
Hexachlorobutadiene	ND		ug/kg	170	--	1
Hexachloroethane	ND		ug/kg	71	--	1
Isophorone	ND		ug/kg	150	--	1
Naphthalene	ND		ug/kg	170	--	1
Nitrobenzene	ND		ug/kg	150	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--	1
Butyl benzyl phthalate	ND		ug/kg	170	--	1
Di-n-butylphthalate	ND		ug/kg	170	--	1
Di-n-octylphthalate	ND		ug/kg	170	--	1
Diethyl phthalate	ND		ug/kg	170	--	1
Dimethyl phthalate	ND		ug/kg	71	--	1
Benzo(a)anthracene	2900		ug/kg	100	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03 Date Collected: 07/06/22 13:00

Client ID: HA22-B1_0.7-3.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	3000		ug/kg	140	--	1
Benzo(b)fluoranthene	3600		ug/kg	100	--	1
Benzo(k)fluoranthene	1100		ug/kg	100	--	1
Chrysene	2500		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	920		ug/kg	100	--	1
Benzo(ghi)perylene	1300		ug/kg	140	--	1
Fluorene	290		ug/kg	170	--	1
Phenanthrene	3000		ug/kg	100	--	1
Dibenzo(a,h)anthracene	380		ug/kg	71	--	1
Indeno(1,2,3-cd)pyrene	1600		ug/kg	140	--	1
Pyrene	4000		ug/kg	100	--	1
Aniline	ND		ug/kg	200	--	1
4-Chloroaniline	ND		ug/kg	170	--	1
Dibenzofuran	200		ug/kg	170	--	1
2-Methylnaphthalene	ND		ug/kg	71	--	1
Acetophenone	ND		ug/kg	170	--	1
2,4,6-Trichlorophenol	ND		ug/kg	71	--	1
2-Chlorophenol	ND		ug/kg	71	--	1
2,4-Dichlorophenol	ND		ug/kg	71	--	1
2,4-Dimethylphenol	ND		ug/kg	71	--	1
2-Nitrophenol	ND		ug/kg	370	--	1
4-Nitrophenol	ND		ug/kg	240	--	1
2,4-Dinitrophenol	ND		ug/kg	810	--	1
Pentachlorophenol	ND		ug/kg	340	--	1
Phenol	ND		ug/kg	170	--	1
2-Methylphenol	ND		ug/kg	170	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--	1
2,4,5-Trichlorophenol	ND		ug/kg	170	--	1
Pyridine	ND		ug/kg	180	--	1
Biphenyl	ND		ug/kg	34	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03 Date Collected: 07/06/22 13:00

Client ID: HA22-B1_0.7-3.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**5**	Q	30-130
Phenol-d6	30		30-130
Nitrobenzene-d5	62		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	**2**	Q	30-130
4-Terphenyl-d14	66		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03 RE
Client ID: HA22-B1_0.7-3.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 13:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/20/22 12:17
Analyst: ALS
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/19/22 19:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	310		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	--	1
Hexachlorobenzene	ND		ug/kg	72	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	72	--	1
2-Chloronaphthalene	ND		ug/kg	170	--	1
1,2-Dichlorobenzene	ND		ug/kg	170	--	1
1,3-Dichlorobenzene	ND		ug/kg	170	--	1
1,4-Dichlorobenzene	ND		ug/kg	72	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	--	1
2,4-Dinitrotoluene	ND		ug/kg	72	--	1
2,6-Dinitrotoluene	ND		ug/kg	170	--	1
Azobenzene	ND		ug/kg	170	--	1
Fluoranthene	5800		ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	72	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--	1
Hexachlorobutadiene	ND		ug/kg	170	--	1
Hexachloroethane	ND		ug/kg	72	--	1
Isophorone	ND		ug/kg	150	--	1
Naphthalene	180		ug/kg	170	--	1
Nitrobenzene	ND		ug/kg	150	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--	1
Butyl benzyl phthalate	ND		ug/kg	170	--	1
Di-n-butylphthalate	ND		ug/kg	170	--	1
Di-n-octylphthalate	ND		ug/kg	170	--	1
Diethyl phthalate	ND		ug/kg	170	--	1
Dimethyl phthalate	ND		ug/kg	72	--	1
Benzo(a)anthracene	3400		ug/kg	100	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03 RE Date Collected: 07/06/22 13:00

Client ID: HA22-B1_0.7-3.0 Date Received: 07/06/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	3400		ug/kg	140	--	1
Benzo(b)fluoranthene	4000		ug/kg	100	--	1
Benzo(k)fluoranthene	1300		ug/kg	100	--	1
Chrysene	2800		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	1000		ug/kg	100	--	1
Benzo(ghi)perylene	1800		ug/kg	140	--	1
Fluorene	300		ug/kg	170	--	1
Phenanthrene	3400		ug/kg	100	--	1
Dibenzo(a,h)anthracene	460		ug/kg	72	--	1
Indeno(1,2,3-cd)pyrene	2300		ug/kg	140	--	1
Pyrene	5100		ug/kg	100	--	1
Aniline	ND		ug/kg	200	--	1
4-Chloroaniline	ND		ug/kg	170	--	1
Dibenzofuran	200		ug/kg	170	--	1
2-Methylnaphthalene	73		ug/kg	72	--	1
Acetophenone	ND		ug/kg	170	--	1
2,4,6-Trichlorophenol	ND		ug/kg	72	--	1
2-Chlorophenol	ND		ug/kg	72	--	1
2,4-Dichlorophenol	ND		ug/kg	72	--	1
2,4-Dimethylphenol	ND		ug/kg	72	--	1
2-Nitrophenol	ND		ug/kg	370	--	1
4-Nitrophenol	ND		ug/kg	240	--	1
2,4-Dinitrophenol	ND		ug/kg	820	--	1
Pentachlorophenol	ND		ug/kg	340	--	1
Phenol	ND		ug/kg	170	--	1
2-Methylphenol	ND		ug/kg	170	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	--	1
2,4,5-Trichlorophenol	ND		ug/kg	170	--	1
Pyridine	ND		ug/kg	180	--	1
Biphenyl	ND		ug/kg	34	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

SAMPLE RESULTS

Lab ID:	L2235914-03	RE	Date Collected:	07/06/22 13:00
Client ID:	HA22-B1_0.7-3.0		Date Received:	07/06/22
Sample Location:	BOSTON, MA		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**6**	Q	30-130
Phenol-d6	**27**	Q	30-130
Nitrobenzene-d5	37		30-130
2-Fluorobiphenyl	40		30-130
2,4,6-Tribromophenol	**6**	Q	30-130
4-Terphenyl-d14	44		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/08/22 14:26
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/07/22 23:34

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1660165-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/08/22 14:26
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/07/22 23:34

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1660165-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/08/22 14:26
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/07/22 23:34

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1660165-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	63		30-130
Phenol-d6	63		30-130
Nitrobenzene-d5	61		30-130
2-Fluorobiphenyl	68		30-130
2,4,6-Tribromophenol	65		30-130
4-Terphenyl-d14	66		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/20/22 03:13
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/19/22 19:53

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 03 Batch: WG1664950-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/20/22 03:13
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/19/22 19:53

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 03 Batch: WG1664950-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/20/22 03:13
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/19/22 19:53

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 03 Batch: WG1664950-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	30		30-130
Phenol-d6	32		30-130
Nitrobenzene-d5	**28**	Q	30-130
2-Fluorobiphenyl	31		30-130
2,4,6-Tribromophenol	38		30-130
4-Terphenyl-d14	33		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1660165-2 WG1660165-3								
Acenaphthene	59		63		40-140	7		30
1,2,4-Trichlorobenzene	64		66		40-140	3		30
Hexachlorobenzene	59		65		40-140	10		30
Bis(2-chloroethyl)ether	57		64		40-140	12		30
2-Chloronaphthalene	64		71		40-140	10		30
1,2-Dichlorobenzene	56		62		40-140	10		30
1,3-Dichlorobenzene	53		63		40-140	17		30
1,4-Dichlorobenzene	58		63		40-140	8		30
3,3'-Dichlorobenzidine	50		53		40-140	6		30
2,4-Dinitrotoluene	63		68		40-140	8		30
2,6-Dinitrotoluene	66		74		40-140	11		30
Azobenzene	56		61		40-140	9		30
Fluoranthene	60		66		40-140	10		30
4-Bromophenyl phenyl ether	59		64		40-140	8		30
Bis(2-chloroisopropyl)ether	66		75		40-140	13		30
Bis(2-chloroethoxy)methane	61		60		40-140	2		30
Hexachlorobutadiene	58		61		40-140	5		30
Hexachloroethane	51		55		40-140	8		30
Isophorone	60		62		40-140	3		30
Naphthalene	62		65		40-140	5		30
Nitrobenzene	59		60		40-140	2		30
Bis(2-ethylhexyl)phthalate	60		66		40-140	10		30
Butyl benzyl phthalate	57		63		40-140	10		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1660165-2 WG1660165-3								
Di-n-butylphthalate	59		65		40-140	10		30
Di-n-octylphthalate	60		66		40-140	10		30
Diethyl phthalate	60		65		40-140	8		30
Dimethyl phthalate	64		71		40-140	10		30
Benzo(a)anthracene	64		70		40-140	9		30
Benzo(a)pyrene	59		65		40-140	10		30
Benzo(b)fluoranthene	59		65		40-140	10		30
Benzo(k)fluoranthene	62		68		40-140	9		30
Chrysene	63		70		40-140	11		30
Acenaphthylene	64		70		40-140	9		30
Anthracene	59		65		40-140	10		30
Benzo(ghi)perylene	58		64		40-140	10		30
Fluorene	62		67		40-140	8		30
Phenanthrene	58		64		40-140	10		30
Dibenzo(a,h)anthracene	60		65		40-140	8		30
Indeno(1,2,3-cd)pyrene	63		71		40-140	12		30
Pyrene	60		66		40-140	10		30
Aniline	47		51		40-140	8		30
4-Chloroaniline	46		46		40-140	0		30
Dibenzofuran	60		66		40-140	10		30
2-Methylnaphthalene	65		72		40-140	10		30
Acetophenone	55		60		40-140	9		30
2,4,6-Trichlorophenol	68		77		30-130	12		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1660165-2 WG1660165-3								
2-Chlorophenol	62		72		30-130	15		30
2,4-Dichlorophenol	67		72		30-130	7		30
2,4-Dimethylphenol	66		68		30-130	3		30
2-Nitrophenol	65		69		30-130	6		30
4-Nitrophenol	58		62		30-130	7		30
2,4-Dinitrophenol	60		56		30-130	7		30
Pentachlorophenol	59		62		30-130	5		30
Phenol	69		77		30-130	11		30
2-Methylphenol	62		67		30-130	8		30
3-Methylphenol/4-Methylphenol	60		67		30-130	11		30
2,4,5-Trichlorophenol	70		78		30-130	11		30
Pyridine	35		43		30-130	21		30
Biphenyl	64		70		40-140	9		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64		71		30-130
Phenol-d6	66		74		30-130
Nitrobenzene-d5	62		62		30-130
2-Fluorobiphenyl	64		72		30-130
2,4,6-Tribromophenol	62		66		30-130
4-Terphenyl-d14	62		69		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03 Batch: WG1664950-2 WG1664950-3								
Acenaphthene	49		41		40-140	18		30
1,2,4-Trichlorobenzene	51		44		40-140	15		30
Hexachlorobenzene	62		51		40-140	19		30
Bis(2-chloroethyl)ether	48		42		40-140	13		30
2-Chloronaphthalene	52		46		40-140	12		30
1,2-Dichlorobenzene	48		42		40-140	13		30
1,3-Dichlorobenzene	47		41		40-140	14		30
1,4-Dichlorobenzene	47		41		40-140	14		30
3,3'-Dichlorobenzidine	45		40		40-140	12		30
2,4-Dinitrotoluene	56		46		40-140	20		30
2,6-Dinitrotoluene	56		48		40-140	15		30
Azobenzene	56		47		40-140	17		30
Fluoranthene	53		44		40-140	19		30
4-Bromophenyl phenyl ether	56		47		40-140	17		30
Bis(2-chloroisopropyl)ether	44		**38**	Q	40-140	15		30
Bis(2-chloroethoxy)methane	49		41		40-140	18		30
Hexachlorobutadiene	52		46		40-140	12		30
Hexachloroethane	46		40		40-140	14		30
Isophorone	48		41		40-140	16		30
Naphthalene	50		43		40-140	15		30
Nitrobenzene	51		43		40-140	17		30
Bis(2-ethylhexyl)phthalate	44		**37**	Q	40-140	17		30
Butyl benzyl phthalate	52		44		40-140	17		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03 Batch: WG1664950-2 WG1664950-3								
Di-n-butylphthalate	53		44		40-140	19		30
Di-n-octylphthalate	46		**39**	Q	40-140	16		30
Diethyl phthalate	51		42		40-140	19		30
Dimethyl phthalate	53		45		40-140	16		30
Benzo(a)anthracene	52		44		40-140	17		30
Benzo(a)pyrene	56		47		40-140	17		30
Benzo(b)fluoranthene	55		44		40-140	22		30
Benzo(k)fluoranthene	53		45		40-140	16		30
Chrysene	51		40		40-140	24		30
Acenaphthylene	54		46		40-140	16		30
Anthracene	51		43		40-140	17		30
Benzo(ghi)perylene	55		45		40-140	20		30
Fluorene	51		43		40-140	17		30
Phenanthrene	49		41		40-140	18		30
Dibenzo(a,h)anthracene	57		47		40-140	19		30
Indeno(1,2,3-cd)pyrene	63		51		40-140	21		30
Pyrene	52		44		40-140	17		30
Aniline	**38**	Q	40		40-140	5		30
4-Chloroaniline	42		**39**	Q	40-140	7		30
Dibenzofuran	51		42		40-140	19		30
2-Methylnaphthalene	52		44		40-140	17		30
Acetophenone	50		43		40-140	15		30
2,4,6-Trichlorophenol	60		52		30-130	14		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03 Batch: WG1664950-2 WG1664950-3								
2-Chlorophenol	53		44		30-130	19		30
2,4-Dichlorophenol	56		45		30-130	22		30
2,4-Dimethylphenol	52		43		30-130	19		30
2-Nitrophenol	53		45		30-130	16		30
4-Nitrophenol	49		41		30-130	18		30
2,4-Dinitrophenol	55		47		30-130	16		30
Pentachlorophenol	52		44		30-130	17		30
Phenol	54		46		30-130	16		30
2-Methylphenol	54		45		30-130	18		30
3-Methylphenol/4-Methylphenol	58		49		30-130	17		30
2,4,5-Trichlorophenol	61		51		30-130	18		30
Pyridine	37		30		30-130	21		30
Biphenyl	50		44		40-140	13		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	**27**	Q	**22**	Q	30-130
Phenol-d6	**28**	Q	**23**	Q	30-130
Nitrobenzene-d5	**25**	Q	**20**	Q	30-130
2-Fluorobiphenyl	**27**	Q	**22**	Q	30-130
2,4,6-Tribromophenol	34		**28**	Q	30-130
4-Terphenyl-d14	**27**	Q	**22**	Q	30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01
Client ID: HA22-B2_0.5-5.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 10:55
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/08/22 18:24
Analyst: MC
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/08/22 01:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	34100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02
Client ID: HA22-TP2_0.7-4.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 12:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/08/22 18:59
Analyst: MC
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/08/22 01:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	79300		ug/kg	34500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	69		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03
Client ID: HA22-B1_0.7-3.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 13:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/08/22 16:05
Analyst: SR
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/08/22 01:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	137000		ug/kg	33600	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	66		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/08/22 15:30
Analyst: SR

Extraction Method: EPA 3546
Extraction Date: 07/08/22 01:35

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-03 Batch: WG1660185-1					
TPH (C10-C36)	ND		ug/kg	31500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	46		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-03 Batch: WG1660185-2								
TPH (C10-C36)	75		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	56				40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1660185-3 QC Sample: L2235914-03 Client ID: HA22-B1_0.7-3.0						
TPH (C10-C36)	137000	139000	ug/kg	1		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	66		66		40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01
Client ID: HA22-B2_0.5-5.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/10/22 18:30
Analyst: JM
Percent Solids: 94%

Date Collected: 07/06/22 10:55
Date Received: 07/06/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/08/22 00:17
Cleanup Method: EPA 3665A
Cleanup Date: 07/09/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/09/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.3	--	1	A
Aroclor 1221	ND		ug/kg	34.3	--	1	A
Aroclor 1232	ND		ug/kg	34.3	--	1	A
Aroclor 1242	ND		ug/kg	34.3	--	1	A
Aroclor 1248	ND		ug/kg	34.3	--	1	A
Aroclor 1254	ND		ug/kg	34.3	--	1	A
Aroclor 1260	ND		ug/kg	34.3	--	1	A
Aroclor 1262	ND		ug/kg	34.3	--	1	A
Aroclor 1268	ND		ug/kg	34.3	--	1	A
PCBs, Total	ND		ug/kg	34.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	51		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	56		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02
Client ID: HA22-TP2_0.7-4.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/10/22 18:38
Analyst: JM
Percent Solids: 92%

Date Collected: 07/06/22 12:00
Date Received: 07/06/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/08/22 00:17
Cleanup Method: EPA 3665A
Cleanup Date: 07/09/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/09/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.5	--	1	A
Aroclor 1221	ND		ug/kg	35.5	--	1	A
Aroclor 1232	ND		ug/kg	35.5	--	1	A
Aroclor 1242	ND		ug/kg	35.5	--	1	A
Aroclor 1248	ND		ug/kg	35.5	--	1	A
Aroclor 1254	ND		ug/kg	35.5	--	1	A
Aroclor 1260	ND		ug/kg	35.5	--	1	A
Aroclor 1262	ND		ug/kg	35.5	--	1	A
Aroclor 1268	ND		ug/kg	35.5	--	1	A
PCBs, Total	ND		ug/kg	35.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	54		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03
Client ID: HA22-B1_0.7-3.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/10/22 18:46
Analyst: JM
Percent Solids: 96%

Date Collected: 07/06/22 13:00
Date Received: 07/06/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/08/22 00:17
Cleanup Method: EPA 3665A
Cleanup Date: 07/09/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/09/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.5	--	1	A
Aroclor 1221	ND		ug/kg	33.5	--	1	A
Aroclor 1232	ND		ug/kg	33.5	--	1	A
Aroclor 1242	ND		ug/kg	33.5	--	1	A
Aroclor 1248	ND		ug/kg	33.5	--	1	A
Aroclor 1254	ND		ug/kg	33.5	--	1	A
Aroclor 1260	ND		ug/kg	33.5	--	1	A
Aroclor 1262	ND		ug/kg	33.5	--	1	A
Aroclor 1268	ND		ug/kg	33.5	--	1	A
PCBs, Total	ND		ug/kg	33.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	72		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	53		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/10/22 17:53
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 07/07/22 23:28
Cleanup Method: EPA 3665A
Cleanup Date: 07/09/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/09/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-03 Batch: WG1660161-1						
Aroclor 1016	ND		ug/kg	31.9	--	A
Aroclor 1221	ND		ug/kg	31.9	--	A
Aroclor 1232	ND		ug/kg	31.9	--	A
Aroclor 1242	ND		ug/kg	31.9	--	A
Aroclor 1248	ND		ug/kg	31.9	--	A
Aroclor 1254	ND		ug/kg	31.9	--	A
Aroclor 1260	ND		ug/kg	31.9	--	A
Aroclor 1262	ND		ug/kg	31.9	--	A
Aroclor 1268	ND		ug/kg	31.9	--	A
PCBs, Total	ND		ug/kg	31.9	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	61		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	52		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-03 Batch: WG1660161-2 WG1660161-3									
Aroclor 1016	78		71		40-140	9		30	A
Aroclor 1260	66		61		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		63		30-150	B
Decachlorobiphenyl	70		64		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		63		30-150	A
Decachlorobiphenyl	60		55		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2235914
Project Number: 134206-006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01
Client ID: HA22-B2_0.5-5.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 10:55
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.08	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Arsenic, Total	0.901		mg/kg	0.415	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Barium, Total	9.16		mg/kg	0.415	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Beryllium, Total	ND		mg/kg	0.208	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Cadmium, Total	ND		mg/kg	0.415	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Chromium, Total	6.01		mg/kg	0.415	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Lead, Total	21.5		mg/kg	2.08	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Mercury, Total	ND		mg/kg	0.078	--	1	07/13/22 21:32	07/18/22 10:57	EPA 7471B	97,7471B	AW
Nickel, Total	8.46		mg/kg	1.04	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Selenium, Total	ND		mg/kg	2.08	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Silver, Total	ND		mg/kg	0.415	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Thallium, Total	ND		mg/kg	2.08	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Vanadium, Total	7.46		mg/kg	0.415	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB
Zinc, Total	22.5		mg/kg	2.08	--	1	07/15/22 11:35	07/19/22 14:57	EPA 3050B	97,6010D	SB

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2235914
Project Number: 134206-006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02
Client ID: HA22-TP2_0.7-4.0
Sample Location: BOSTON, MA
Date Collected: 07/06/22 12:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.13	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Arsenic, Total	1.57		mg/kg	0.427	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Barium, Total	21.8		mg/kg	0.427	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Beryllium, Total	ND		mg/kg	0.213	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Cadmium, Total	0.871		mg/kg	0.427	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Chromium, Total	7.08		mg/kg	0.427	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Lead, Total	37.4		mg/kg	2.13	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Mercury, Total	ND		mg/kg	0.081	--	1	07/13/22 21:32	07/18/22 11:00	EPA 7471B	97,7471B	AW
Nickel, Total	5.98		mg/kg	1.07	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Selenium, Total	ND		mg/kg	2.13	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Silver, Total	ND		mg/kg	0.427	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Thallium, Total	ND		mg/kg	2.13	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Vanadium, Total	12.3		mg/kg	0.427	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB
Zinc, Total	188		mg/kg	2.13	--	1	07/15/22 11:35	07/19/22 15:02	EPA 3050B	97,6010D	SB

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2235914
Project Number: 134206-006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03
Client ID: HA22-B1_0.7-3.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 13:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.04	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Arsenic, Total	1.67		mg/kg	0.409	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Barium, Total	26.1		mg/kg	0.409	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Beryllium, Total	ND		mg/kg	0.204	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Cadmium, Total	ND		mg/kg	0.409	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Chromium, Total	11.3		mg/kg	0.409	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Lead, Total	8.22		mg/kg	2.04	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Mercury, Total	ND		mg/kg	0.075	--	1	07/13/22 21:32	07/18/22 11:10	EPA 7471B	97,7471B	AW
Nickel, Total	4.34		mg/kg	1.02	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Selenium, Total	ND		mg/kg	2.04	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Silver, Total	ND		mg/kg	0.409	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Thallium, Total	ND		mg/kg	2.04	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Vanadium, Total	6.96		mg/kg	0.409	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB
Zinc, Total	23.7		mg/kg	2.04	--	1	07/15/22 11:35	07/19/22 15:06	EPA 3050B	97,6010D	SB

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2235914

Project Number: 134206-006 **Report Date:** 07/20/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1662484-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/13/22 21:32	07/18/22 09:54	97,7471B	AW

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1662919-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Arsenic, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Barium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Beryllium, Total	ND		mg/kg	0.200	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Cadmium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Chromium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Lead, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Nickel, Total	ND		mg/kg	1.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Selenium, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Silver, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Thallium, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Vanadium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Zinc, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2235914
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1662484-2 WG1662484-3 SRM Lot Number: D113-540								
Mercury, Total	84		96		60-140	13		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1662919-2 WG1662919-3 SRM Lot Number: D113-540								
Antimony, Total	126		133		20-250	5		30
Arsenic, Total	84		88		70-130	5		30
Barium, Total	79		80		75-125	1		30
Beryllium, Total	84		93		75-125	10		30
Cadmium, Total	81		87		75-125	7		30
Chromium, Total	77		84		70-130	9		30
Lead, Total	77		80		72-128	4		30
Nickel, Total	81		85		70-130	5		30
Selenium, Total	89		95		66-134	7		30
Silver, Total	82		86		70-131	5		30
Thallium, Total	80		88		70-130	10		30
Vanadium, Total	76		80		74-126	5		30
Zinc, Total	78		81		70-130	4		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

SAMPLE RESULTS

Lab ID:	L2235914-01	Date Collected:	07/06/22 10:55
Client ID:	HA22-B2_0.5-5.0	Date Received:	07/06/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/11/22 11:00	1,1030	IS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

SAMPLE RESULTS

Lab ID:	L2235914-02	Date Collected:	07/06/22 12:00
Client ID:	HA22-TP2_0.7-4.0	Date Received:	07/06/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/11/22 11:00	1,1030	IS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

SAMPLE RESULTS

Lab ID:	L2235914-03	Date Collected:	07/06/22 13:00
Client ID:	HA22-B1_0.7-3.0	Date Received:	07/06/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/11/22 11:00	1,1030	IS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-01
Client ID: HA22-B2_0.5-5.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 10:55
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	2000		umhos/cm	10	--	1	-	07/12/22 13:03	1,9050A	KS
Solids, Total	94.4		%	0.100	NA	1	-	07/07/22 12:37	121,2540G	RI
pH (H)	8.2		SU	-	NA	1	-	07/12/22 09:30	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/18/22 17:50	07/18/22 21:22	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/18/22 17:50	07/18/22 20:59	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-02
Client ID: HA22-TP2_0.7-4.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 12:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	150		umhos/cm	10	--	1	-	07/12/22 13:03	1,9050A	KS
Solids, Total	92.0		%	0.100	NA	1	-	07/07/22 12:37	121,2540G	RI
pH (H)	8.9		SU	-	NA	1	-	07/12/22 09:30	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/18/22 17:50	07/18/22 21:23	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/18/22 17:50	07/18/22 20:59	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2235914-03
Client ID: HA22-B1_0.7-3.0
Sample Location: BOSTON, MA

Date Collected: 07/06/22 13:00
Date Received: 07/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	440		umhos/cm	10	--	1	-	07/12/22 13:03	1,9050A	KS
Solids, Total	95.8		%	0.100	NA	1	-	07/07/22 12:37	121,2540G	RI
pH (H)	11.6		SU	-	NA	1	-	07/12/22 09:30	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/18/22 17:50	07/18/22 21:23	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/18/22 17:50	07/18/22 21:00	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1664382-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/18/22 17:50	07/18/22 20:57	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1664384-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/18/22 17:50	07/18/22 21:30	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1661644-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1661650-1								
Specific Conductance	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02-03 Batch: WG1661651-1								
Specific Conductance	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1664382-2								
Sulfide, Reactive	97		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1664384-2								
Cyanide, Reactive	91		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2235914

Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02-03 QC Batch ID: WG1661651-2 QC Sample: L2235914-02 Client ID: HA22-TP2_0.7-4.0						
Specific Conductance @ 25 C	150	180	umhos/cm	18		20

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235914-01A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2235914-01B	Vial water preserved	A	NA		2.7	Y	Absent	06-JUL-22 21:59	MCP-8260HLW-21(14)
L2235914-01C	Vial water preserved	A	NA		2.7	Y	Absent	06-JUL-22 21:59	MCP-8260HLW-21(14)
L2235914-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2235914-01E	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.7	Y	Absent		HEXCR-RELOG()
L2235914-01F	Vial Large Septa unpreserved (4oz)	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2235914-01G	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2235914-01H	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2235914-02A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2235914-02B	Vial water preserved	A	NA		2.7	Y	Absent	06-JUL-22 21:59	MCP-8260HLW-21(14)
L2235914-02C	Vial water preserved	A	NA		2.7	Y	Absent	06-JUL-22 21:59	MCP-8260HLW-21(14)
L2235914-02D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2235914
Report Date: 07/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235914-02E	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.7	Y	Absent		HEXCR-RELOG()
L2235914-02F	Vial Large Septa unpreserved (4oz)	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2235914-02G	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2235914-02H	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2235914-03A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2235914-03B	Vial water preserved	A	NA		2.7	Y	Absent	06-JUL-22 21:59	MCP-8260HLW-21(14)
L2235914-03C	Vial water preserved	A	NA		2.7	Y	Absent	06-JUL-22 21:59	MCP-8260HLW-21(14)
L2235914-03D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2235914-03E	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.7	Y	Absent		HEXCR-RELOG()
L2235914-03F	Vial Large Septa unpreserved (4oz)	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2235914-03G	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2235914-03H	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2235914
Project Number:	134206-006	**Report Date:**	07/20/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

② H&A

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/6/22

ALPHA Job #: L2235914

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-006
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note	Sample Specific Comments	Total # Bottles
35914 01	HA22-B2_0.5-5.0	7/6/2022	1055	SO/F	MJD	0.5-5	x	x	x	x	x	x	x	x		8
02	HA22-TP2_0.7-4.0	7/6/2022	1200	SO/F	MJD	0.7-4	X	X	X	X	X	X	X	X		8
03	HA22-B1_0.7-3.0	7/6/2022	1300	SO/F	MJD	0.7-3	X	X	X	X	X	X	X	X		8
															24 TOTAL	

Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	7/6/2022 1600	Rob Maestro	7/6/22 16:00
Rob Maestro	7/6/22 1705	[illegible]	7/6/22 1705

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2235914
Project Name	: MATTHEWS ARENA-NORTHEASTERN U	**Project Number**	: 134206-006
Lab Sample ID	: WG1664130-5	**Lab File ID**	: V29220715A05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 07/15/22 08:21

Client Sample No.	Lab Sample ID	Analysis Date
WG1664130-3LCS	WG1664130-3	07/15/22 07:18
WG1664130-4LCSD	WG1664130-4	07/15/22 07:39
HA22-B2_0.5-5.0	L2235914-01	07/15/22 13:12
HA22-TP2_0.7-4.0	L2235914-02	07/15/22 13:32
HA22-B1_0.7-3.0	L2235914-03	07/15/22 13:53

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2235914		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA129	Calibration Date	: 07/15/22 06:57		
Lab File ID	: V29220715A01	Init. Calib. Date(s)	: 07/12/22	07/12/22	
Sample No	: WG1664130-2	Init. Calib. Times	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	113	-.01
Dichlorodifluoromethane	0.285	0.272	-	4.6	20	102	0
Chloromethane	0.328	0.291	-	11.3	20	102	0
Vinyl chloride	0.302	0.292	-	3.3	20	106	0
Bromomethane	0.165	0.19	-	-15.2	20	132	0
Chloroethane	0.183	0.172	-	6	20	105	0
Trichlorofluoromethane	0.408	0.402	-	1.5	20	104	0
Ethyl ether	0.15	0.135	-	10	20	103	0
1,1-Dichloroethene	0.248	0.236	-	4.8	20	106	0
Carbon disulfide	0.739	0.703	-	4.9	20	106	0
Freon-113	0.257	0.246	-	4.3	20	103	0
Acrolein	0.045	0.038	-	15.6	20	96	0
Methylene chloride	40	37.866	-	5.3	20	105	0
Acetone	40	34.057	-	14.9	20	95	-.01
trans-1,2-Dichloroethene	0.292	0.277	-	5.1	20	107	0
Methyl acetate	0.195	0.159	-	18.5	20	94	0
Methyl tert-butyl ether	0.792	0.711	-	10.2	20	100	0
tert-Butyl alcohol	0.04	0.032	-	20	20	92	-.01
Diisopropyl ether	0.908	0.862	-	5.1	20	102	0
1,1-Dichloroethane	0.524	0.485	-	7.4	20	104	0
Halothane	0.227	0.212	-	6.6	20	103	0
Acrylonitrile	0.101	0.083	-	17.8	20	100	0
Ethyl tert-butyl ether	0.922	0.864	-	6.3	20	100	0
Vinyl acetate	0.669	0.611	-	8.7	20	97	-.01
cis-1,2-Dichloroethene	0.331	0.305	-	7.9	20	103	0
2,2-Dichloropropane	0.447	0.429	-	4	20	107	0
Bromochloromethane	0.163	0.148	-	9.2	20	101	0
Cyclohexane	0.479	0.449	-	6.3	20	100	0
Chloroform	0.54	0.504	-	6.7	20	104	0
Ethyl acetate	0.295	0.237	-	19.7	20	92	0
Carbon tetrachloride	0.414	0.385	-	7	20	101	0
Tetrahydrofuran	0.116	0.09	-	22.4*	20	96	0
Dibromofluoromethane	0.28	0.269	-	3.9	20	110	0
1,1,1-Trichloroethane	0.444	0.423	-	4.7	20	103	0
2-Butanone	40	28.687	-	28.3*	20	85	0
1,1-Dichloropropene	0.367	0.367	-	0	20	106	0
Benzene	1.158	1.089	-	6	20	104	0
tert-Amyl methyl ether	0.833	0.762	-	8.5	20	99	0
1,2-Dichloroethane-d4	0.302	0.288	-	4.6	20	110	0
1,2-Dichloroethane	0.413	0.368	-	10.9	20	98	0
Methyl cyclohexane	0.491	0.457	-	6.9	20	99	0
Trichloroethene	0.303	0.288	-	5	20	103	0
Dibromomethane	0.194	0.169	-	12.9	20	98	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2235914		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA129	Calibration Date	: 07/15/22 06:57		
Lab File ID	: V29220715A01	Init. Calib. Date(s)	: 07/12/22	07/12/22	
Sample No	: WG1664130-2	Init. Calib. Times	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.31	0.292	-	5.8	20	103	0
2-Chloroethyl vinyl ether	0.201	0.183	-	9	20	98	0
Bromodichloromethane	0.422	0.387	-	8.3	20	100	0
1,4-Dioxane	0.00333	0.00282*	-	15.3	20	90	0
cis-1,3-Dichloropropene	0.494	0.461	-	6.7	20	102	0
Chlorobenzene-d5	1	1	-	0	20	113	0
Toluene-d8	1.282	1.294	-	-0.9	20	113	0
Toluene	0.949	0.88	-	7.3	20	105	0
4-Methyl-2-pentanone	0.143	0.123	-	14	20	93	0
Tetrachloroethene	0.383	0.366	-	4.4	20	102	0
trans-1,3-Dichloropropene	0.554	0.521	-	6	20	100	0
Ethyl methacrylate	0.487	0.438	-	10.1	20	96	0
1,1,2-Trichloroethane	0.269	0.248	-	7.8	20	98	0
Chlorodibromomethane	0.391	0.366	-	6.4	20	98	0
1,3-Dichloropropane	0.558	0.508	-	9	20	99	0
1,2-Dibromoethane	0.33	0.308	-	6.7	20	98	0
2-Hexanone	0.263	0.213	-	19	20	90	0
Chlorobenzene	1.05	0.998	-	5	20	105	0
Ethylbenzene	1.733	1.634	-	5.7	20	103	0
1,1,1,2-Tetrachloroethane	0.379	0.363	-	4.2	20	101	0
p/m Xylene	0.679	0.643	-	5.3	20	103	0
o Xylene	0.671	0.633	-	5.7	20	103	0
Styrene	1.113	1.066	-	4.2	20	103	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	114	0
Bromoform	0.479	0.422	-	11.9	20	96	0
Isopropylbenzene	3.261	2.996	-	8.1	20	100	0
4-Bromofluorobenzene	0.934	0.931	-	0.3	20	115	0
Bromobenzene	0.845	0.778	-	7.9	20	102	0
n-Propylbenzene	3.816	3.54	-	7.2	20	101	0
1,4-Dichlorobutane	1.17	1.018	-	13	20	99	0
1,1,2,2-Tetrachloroethane	0.818	0.718	-	12.2	20	96	0
4-Ethyltoluene	3.238	3.049	-	5.8	20	102	0
2-Chlorotoluene	2.302	2.18	-	5.3	20	101	0
1,3,5-Trimethylbenzene	2.812	2.604	-	7.4	20	101	0
1,2,3-Trichloropropane	0.67	0.57	-	14.9	20	93	0
trans-1,4-Dichloro-2-buten	0.273	0.24	-	12.1	20	95	0
4-Chlorotoluene	2.423	2.297	-	5.2	20	104	0
tert-Butylbenzene	2.405	2.201	-	8.5	20	100	0
1,2,4-Trimethylbenzene	2.765	2.565	-	7.2	20	101	0
sec-Butylbenzene	3.507	3.238	-	7.7	20	99	0
p-Isopropyltoluene	3.042	2.899	-	4.7	20	102	0
1,3-Dichlorobenzene	1.637	1.531	-	6.5	20	103	0
1,4-Dichlorobenzene	40	37.025	-	7.4	20	103	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2235914		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	**Project Number**	: 134206-006		
Instrument ID	: VOA129	**Calibration Date**	: 07/15/22 06:57		
Lab File ID	: V29220715A01	**Init. Calib. Date(s)**	: 07/12/22	07/12/22	
Sample No	: WG1664130-2	**Init. Calib. Times**	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.856	1.737	-	6.4	20	103	0
n-Butylbenzene	2.682	2.526	-	5.8	20	101	0
1,2-Dichlorobenzene	1.573	1.45	-	7.8	20	102	0
1,2,4,5-Tetramethylbenzene	2.886	2.693	-	6.7	20	101	0
1,2-Dibromo-3-chloropropan	0.152	0.129	-	15.1	20	96	0
1,3,5-Trichlorobenzene	1.196	1.122	-	6.2	20	104	0
Hexachlorobutadiene	0.559	0.52	-	7	20	102	0
1,2,4-Trichlorobenzene	1.111	1.038	-	6.6	20	104	0
Naphthalene	2.757	2.49	-	9.7	20	99	0
1,2,3-Trichlorobenzene	1.055	0.955	-	9.5	20	103	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2236315
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-007
Report Date:	07/21/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236315-01	HA22-B5_6.0-10.0	SOIL	BOSTON, MA	07/07/22 09:40	07/07/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2236315-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromodichloromethane (0.2830), 1,4-dioxane (0.0015), 1,1,2-trichloroethane (0.1938)

Average Response Factor: 1,4-dioxane, 1,1,2-trichloroethane

L2236315-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 07/21/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236315

Report Date: 07/21/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1664114-4	Chloromethane	LCSD	64	70-130	01	potential low bias
8260D	Batch QC	WG1664114-4	Vinyl chloride	LCSD	67	70-130	01	potential low bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236315

Project Number: 134206-007 **Report Date:** 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01
Client ID: HA22-B5_6.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/07/22 09:40
Date Received: 07/07/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/15/22 12:25
Analyst: LAC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236315

Project Number: 134206-007 **Report Date:** 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01 Date Collected: 07/07/22 09:40

Client ID: HA22-B5_6.0-10.0 Date Received: 07/07/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.50	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	ND		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236315

Project Number: 134206-007 **Report Date:** 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01 Date Collected: 07/07/22 09:40

Client ID: HA22-B5_6.0-10.0 Date Received: 07/07/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	81	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 10:49
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1664114-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 10:49
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1664114-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 10:49
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1664114-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1664114-3 WG1664114-4								
Methylene chloride	89		86		70-130	3		20
1,1-Dichloroethane	88		82		70-130	7		20
Chloroform	90		84		70-130	7		20
Carbon tetrachloride	90		79		70-130	13		20
1,2-Dichloropropane	89		85		70-130	5		20
Dibromochloromethane	94		92		70-130	2		20
1,1,2-Trichloroethane	89		90		70-130	1		20
Tetrachloroethene	90		82		70-130	9		20
Chlorobenzene	90		86		70-130	5		20
Trichlorofluoromethane	79		75		70-130	5		20
1,2-Dichloroethane	90		88		70-130	2		20
1,1,1-Trichloroethane	91		81		70-130	12		20
Bromodichloromethane	92		88		70-130	4		20
trans-1,3-Dichloropropene	90		90		70-130	0		20
cis-1,3-Dichloropropene	94		91		70-130	3		20
1,1-Dichloropropene	88		79		70-130	11		20
Bromoform	91		92		70-130	1		20
1,1,2,2-Tetrachloroethane	83		86		70-130	4		20
Benzene	90		84		70-130	7		20
Toluene	83		79		70-130	5		20
Ethylbenzene	86		80		70-130	7		20
Chloromethane	70		**64**	Q	70-130	9		20
Bromomethane	112		102		70-130	9		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1664114-3 WG1664114-4								
Vinyl chloride	77		**67**	Q	70-130	14		20
Chloroethane	81		76		70-130	6		20
1,1-Dichloroethene	88		80		70-130	10		20
trans-1,2-Dichloroethene	90		82		70-130	9		20
Trichloroethene	93		86		70-130	8		20
1,2-Dichlorobenzene	90		88		70-130	2		20
1,3-Dichlorobenzene	89		85		70-130	5		20
1,4-Dichlorobenzene	85		84		70-130	1		20
Methyl tert butyl ether	93		95		70-130	2		20
p/m-Xylene	86		81		70-130	6		20
o-Xylene	91		87		70-130	4		20
cis-1,2-Dichloroethene	91		86		70-130	6		20
Dibromomethane	93		92		70-130	1		20
1,2,3-Trichloropropane	82		86		70-130	5		20
Styrene	87		85		70-130	2		20
Dichlorodifluoromethane	90		77		70-130	16		20
Acetone	104		112		70-130	7		20
Carbon disulfide	87		78		70-130	11		20
Methyl ethyl ketone	86		90		70-130	5		20
Methyl isobutyl ketone	87		92		70-130	6		20
2-Hexanone	86		90		70-130	5		20
Bromochloromethane	97		95		70-130	2		20
Tetrahydrofuran	83		88		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1664114-3 WG1664114-4								
2,2-Dichloropropane	90		81		70-130	11		20
1,2-Dibromoethane	93		94		70-130	1		20
1,3-Dichloropropane	89		90		70-130	1		20
1,1,1,2-Tetrachloroethane	93		90		70-130	3		20
Bromobenzene	88		85		70-130	3		20
n-Butylbenzene	88		83		70-130	6		20
sec-Butylbenzene	88		82		70-130	7		20
tert-Butylbenzene	88		82		70-130	7		20
o-Chlorotoluene	86		82		70-130	5		20
p-Chlorotoluene	86		82		70-130	5		20
1,2-Dibromo-3-chloropropane	89		95		70-130	7		20
Hexachlorobutadiene	92		87		70-130	6		20
Isopropylbenzene	86		80		70-130	7		20
p-Isopropyltoluene	89		84		70-130	6		20
Naphthalene	92		98		70-130	6		20
n-Propylbenzene	86		80		70-130	7		20
1,2,3-Trichlorobenzene	93		95		70-130	2		20
1,2,4-Trichlorobenzene	94		94		70-130	0		20
1,3,5-Trimethylbenzene	88		83		70-130	6		20
1,2,4-Trimethylbenzene	89		84		70-130	6		20
Diethyl ether	95		96		70-130	1		20
Diisopropyl Ether	90		88		70-130	2		20
Ethyl-Tert-Butyl-Ether	93		92		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236315

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1664114-3 WG1664114-4								
Tertiary-Amyl Methyl Ether	93		94		70-130	1		20
1,4-Dioxane	92		100		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		100		70-130
Toluene-d8	97		98		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	101		101		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01
Client ID: HA22-B5_6.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/07/22 09:40
Date Received: 07/07/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/17/22 16:41
Analyst: ALS
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 21:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	84	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	84	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	84	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	84	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	84	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	84	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	84	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236315

Project Number: 134206-007 **Report Date:** 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01 Date Collected: 07/07/22 09:40

Client ID: HA22-B5_6.0-10.0 Date Received: 07/07/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	84	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	84	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	84	--	1
2-Chlorophenol	ND		ug/kg	84	--	1
2,4-Dichlorophenol	ND		ug/kg	84	--	1
2,4-Dimethylphenol	ND		ug/kg	84	--	1
2-Nitrophenol	ND		ug/kg	430	--	1
4-Nitrophenol	ND		ug/kg	280	--	1
2,4-Dinitrophenol	ND		ug/kg	960	--	1
Pentachlorophenol	ND		ug/kg	400	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	220	--	1
Biphenyl	ND		ug/kg	40	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236315

Project Number: 134206-007 **Report Date:** 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01 Date Collected: 07/07/22 09:40

Client ID: HA22-B5_6.0-10.0 Date Received: 07/07/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	72		30-130
Phenol-d6	80		30-130
Nitrobenzene-d5	83		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	70		30-130
4-Terphenyl-d14	65		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/14/22 21:08
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/14/22 12:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1662929-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/14/22 21:08
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/14/22 12:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1662929-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/14/22 21:08
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/14/22 12:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1662929-1					
Biphenyl	ND		ug/kg	32	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	81		30-130
2-Fluorobiphenyl	82		30-130
2,4,6-Tribromophenol	86		30-130
4-Terphenyl-d14	86		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1662929-2 WG1662929-3								
Acenaphthene	59		55		40-140	7		30
1,2,4-Trichlorobenzene	59		58		40-140	2		30
Hexachlorobenzene	59		56		40-140	5		30
Bis(2-chloroethyl)ether	62		60		40-140	3		30
2-Chloronaphthalene	62		59		40-140	5		30
1,2-Dichlorobenzene	60		58		40-140	3		30
1,3-Dichlorobenzene	58		57		40-140	2		30
1,4-Dichlorobenzene	61		56		40-140	9		30
3,3'-Dichlorobenzidine	54		47		40-140	14		30
2,4-Dinitrotoluene	62		58		40-140	7		30
2,6-Dinitrotoluene	64		61		40-140	5		30
Azobenzene	54		51		40-140	6		30
Fluoranthene	61		57		40-140	7		30
4-Bromophenyl phenyl ether	58		54		40-140	7		30
Bis(2-chloroisopropyl)ether	67		65		40-140	3		30
Bis(2-chloroethoxy)methane	56		55		40-140	2		30
Hexachlorobutadiene	58		57		40-140	2		30
Hexachloroethane	57		53		40-140	7		30
Isophorone	56		53		40-140	6		30
Naphthalene	61		58		40-140	5		30
Nitrobenzene	57		54		40-140	5		30
Bis(2-ethylhexyl)phthalate	56		50		40-140	11		30
Butyl benzyl phthalate	59		55		40-140	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1662929-2 WG1662929-3								
Di-n-butylphthalate	59		55		40-140	7		30
Di-n-octylphthalate	58		53		40-140	9		30
Diethyl phthalate	59		55		40-140	7		30
Dimethyl phthalate	61		58		40-140	5		30
Benzo(a)anthracene	62		57		40-140	8		30
Benzo(a)pyrene	59		55		40-140	7		30
Benzo(b)fluoranthene	60		55		40-140	9		30
Benzo(k)fluoranthene	63		60		40-140	5		30
Chrysene	62		55		40-140	12		30
Acenaphthylene	62		58		40-140	7		30
Anthracene	62		56		40-140	10		30
Benzo(ghi)perylene	63		58		40-140	8		30
Fluorene	61		57		40-140	7		30
Phenanthrene	60		56		40-140	7		30
Dibenzo(a,h)anthracene	64		59		40-140	8		30
Indeno(1,2,3-cd)pyrene	70		64		40-140	9		30
Pyrene	62		58		40-140	7		30
Aniline	49		47		40-140	4		30
4-Chloroaniline	53		49		40-140	8		30
Dibenzofuran	60		56		40-140	7		30
2-Methylnaphthalene	64		61		40-140	5		30
Acetophenone	58		55		40-140	5		30
2,4,6-Trichlorophenol	68		64		30-130	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1662929-2 WG1662929-3								
2-Chlorophenol	64		64		30-130	0		30
2,4-Dichlorophenol	63		61		30-130	3		30
2,4-Dimethylphenol	60		59		30-130	2		30
2-Nitrophenol	63		62		30-130	2		30
4-Nitrophenol	57		54		30-130	5		30
2,4-Dinitrophenol	67		62		30-130	8		30
Pentachlorophenol	66		65		30-130	2		30
Phenol	70		69		30-130	1		30
2-Methylphenol	63		60		30-130	5		30
3-Methylphenol/4-Methylphenol	63		58		30-130	8		30
2,4,5-Trichlorophenol	68		64		30-130	6		30
Pyridine	33		33		30-130	0		30
Biphenyl	63		60		40-140	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	66		65		30-130
Phenol-d6	65		64		30-130
Nitrobenzene-d5	57		57		30-130
2-Fluorobiphenyl	62		58		30-130
2,4,6-Tribromophenol	62		59		30-130
4-Terphenyl-d14	61		57		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2236315
Project Number: 134206-007
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01
Client ID: HA22-B5_6.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/07/22 09:40
Date Received: 07/07/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/12/22 08:07
Analyst: SC
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/11/22 19:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	39300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/11/22 15:39
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 07/11/22 05:00

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1661065-1					
TPH (C10-C36)	ND		ug/kg	32200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	74		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236315

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1661065-2								
TPH (C10-C36)	70		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	69				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01
Client ID: HA22-B5_6.0-10.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/13/22 03:07
Analyst: MEO
Percent Solids: 82%

Date Collected: 07/07/22 09:40
Date Received: 07/07/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/11/22 21:07
Cleanup Method: EPA 3665A
Cleanup Date: 07/12/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/12/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.8	--	1	A
Aroclor 1221	ND		ug/kg	39.8	--	1	A
Aroclor 1232	ND		ug/kg	39.8	--	1	A
Aroclor 1242	ND		ug/kg	39.8	--	1	A
Aroclor 1248	ND		ug/kg	39.8	--	1	A
Aroclor 1254	ND		ug/kg	39.8	--	1	A
Aroclor 1260	ND		ug/kg	39.8	--	1	A
Aroclor 1262	ND		ug/kg	39.8	--	1	A
Aroclor 1268	ND		ug/kg	39.8	--	1	A
PCBs, Total	ND		ug/kg	39.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	51		30-150	B
Decachlorobiphenyl	45		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	52		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/12/22 02:40
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 07/11/22 01:36
Cleanup Method: EPA 3665A
Cleanup Date: 07/11/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/11/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1661046-1						
Aroclor 1016	ND		ug/kg	32.1	--	A
Aroclor 1221	ND		ug/kg	32.1	--	A
Aroclor 1232	ND		ug/kg	32.1	--	A
Aroclor 1242	ND		ug/kg	32.1	--	A
Aroclor 1248	ND		ug/kg	32.1	--	A
Aroclor 1254	ND		ug/kg	32.1	--	A
Aroclor 1260	ND		ug/kg	32.1	--	A
Aroclor 1262	ND		ug/kg	32.1	--	A
Aroclor 1268	ND		ug/kg	32.1	--	A
PCBs, Total	ND		ug/kg	32.1	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	64		30-150	B
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	58		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236315

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1661046-2 WG1661046-3									
Aroclor 1016	75		74		40-140	1		30	A
Aroclor 1260	65		64		40-140	2		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		83		30-150	B
Decachlorobiphenyl	77		75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		81		30-150	A
Decachlorobiphenyl	66		65		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2236315
Project Number: 134206-007
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01
Client ID: HA22-B5_6.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/07/22 09:40
Date Received: 07/07/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.38	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Arsenic, Total	0.998		mg/kg	0.475	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Barium, Total	10.0		mg/kg	0.475	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Beryllium, Total	ND		mg/kg	0.238	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Cadmium, Total	ND		mg/kg	0.475	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Chromium, Total	6.37		mg/kg	0.475	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Lead, Total	3.53		mg/kg	2.38	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Mercury, Total	ND		mg/kg	0.087	--	1	07/15/22 12:10	07/19/22 10:14	EPA 7471B	97,7471B	DMB
Nickel, Total	5.28		mg/kg	1.19	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Selenium, Total	ND		mg/kg	2.38	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Silver, Total	ND		mg/kg	0.475	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Thallium, Total	ND		mg/kg	2.38	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Vanadium, Total	11.6		mg/kg	0.475	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB
Zinc, Total	14.5		mg/kg	2.38	--	1	07/15/22 11:35	07/19/22 15:25	EPA 3050B	97,6010D	SB

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236315

Project Number: 134206-007 **Report Date:** 07/21/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662919-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Arsenic, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Barium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Beryllium, Total	ND		mg/kg	0.200	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Cadmium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Chromium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Lead, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Nickel, Total	ND		mg/kg	1.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Selenium, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Silver, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Thallium, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Vanadium, Total	ND		mg/kg	0.400	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB
Zinc, Total	ND		mg/kg	2.00	--	1	07/15/22 11:35	07/19/22 12:54	97,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662920-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/15/22 12:10	07/19/22 09:25	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662919-2 WG1662919-3 SRM Lot Number: D113-540								
Antimony, Total	126		133		20-250	5		30
Arsenic, Total	84		88		70-130	5		30
Barium, Total	79		80		75-125	1		30
Beryllium, Total	84		93		75-125	10		30
Cadmium, Total	81		87		75-125	7		30
Chromium, Total	77		84		70-130	9		30
Lead, Total	77		80		72-128	4		30
Nickel, Total	81		85		70-130	5		30
Selenium, Total	89		95		66-134	7		30
Silver, Total	82		86		70-131	5		30
Thallium, Total	80		88		70-130	10		30
Vanadium, Total	76		80		74-126	5		30
Zinc, Total	78		81		70-130	4		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662920-2 WG1662920-3 SRM Lot Number: D113-540								
Mercury, Total	94		86		60-140	9		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

SAMPLE RESULTS

Lab ID:	L2236315-01	Date Collected:	07/07/22 09:40
Client ID:	HA22-B5_6.0-10.0	Date Received:	07/07/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/11/22 11:00	1,1030	IS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2236315-01
Client ID: HA22-B5_6.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/07/22 09:40
Date Received: 07/07/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	24		umhos/cm	10	--	1	-	07/12/22 13:03	1,9050A	KS
Solids, Total	81.9		%	0.100	NA	1	-	07/08/22 08:27	121,2540G	RI
pH (H)	8.0		SU	-	NA	1	-	07/12/22 08:41	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/18/22 17:50	07/18/22 21:27	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/18/22 17:50	07/18/22 21:03	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2236315
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1664382-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/18/22 17:50	07/18/22 20:57	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1664384-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/18/22 17:50	07/18/22 21:30	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236315

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1661646-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1661652-1								
Specific Conductance	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1664382-2								
Sulfide, Reactive	97		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1664384-2								
Cyanide, Reactive	91		-		30-125	-		40

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236315
Report Date: 07/21/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236315-01A	Vial MeOH preserved	A	NA		4.2	Y	Absent		MCP-8260HLW-21(14)
L2236315-01B	Vial water preserved	A	NA		4.2	Y	Absent	07-JUL-22 23:17	MCP-8260HLW-21(14)
L2236315-01C	Vial water preserved	A	NA		4.2	Y	Absent	07-JUL-22 23:17	MCP-8260HLW-21(14)
L2236315-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2236315-01E	Vial Large Septa unpreserved (4oz)	A	NA		4.2	Y	Absent		MCP-8260HLW-21(14)
L2236315-01F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2236315-01G	Glass 250ml/8oz unpreserved	A	NA		4.2	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2236315-01H	Glass 500ml/16oz unpreserved	A	NA		4.2	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236315
Project Number:	134206-007	**Report Date:**	07/21/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 7/7/22

ALPHA Job # L2230315

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project # 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
30315 01	HA22-B5_6.0-10.0	7/7/2022	0940	SO/F	MJO	6-10	x	x	x	x	x	x	x	x		8
															8 TOTAL	

Preservative Code:	Container Code
A = None	P = Plastic
B = HCl	A = Amber Glass
C = HNO_3	V = Vial
D = H_2SO_4	G = Glass
E = NaOH	B = Bacteria Cup
F = MeOH	C = Cube
G = $NaHSO_4$	O = Other
H = $Na_2S_2O_3$	E = Encore
K/E = Zn Ac/NaOH	D = BOD Bottle
O = Other	

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/7/2022 1555	[signature]	7/7/22 1555
[signature]	7/7/22 1718	[signature]	7/7/22 1718

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2236315
Project Name	: MATTHEWS ARENA-NORTHEASTERN Univ	**Project Number**	: 134206-007
Lab Sample ID	: WG1664114-5	**Lab File ID**	: V00220715A05
Instrument ID	: VOA100		
Matrix	: SOIL	**Analysis Date**	: 07/15/22 10:49

Client Sample No.	Lab Sample ID	Analysis Date
WG1664114-3LCS	WG1664114-3	07/15/22 09:31
WG1664114-4LCSD	WG1664114-4	07/15/22 09:57
HA22-B5_6.0-10.0	L2236315-01	07/15/22 12:25

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2236315		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-007		
Instrument ID	: VOA100	Calibration Date	: 07/15/22 09:05		
Lab File ID	: V00220715A01	Init. Calib. Date(s)	: 07/14/22	07/14/22	
Sample No	: WG1664114-2	Init. Calib. Times	: 19:30	22:58	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	111	0
Dichlorodifluoromethane	0.229	0.213	-	7	20	99	0
Chloromethane	0.265	0.192	-	27.5*	20	80	0
Vinyl chloride	40	31.708	-	20.7*	20	98	0
Bromomethane	0.087	0.105	-	-20.7*	20	138	0
Chloroethane	0.092	0.078	-	15.2	20	96	0
Trichlorofluoromethane	0.299	0.252	-	15.7	20	91	0
Ethyl ether	0.106	0.104	-	1.9	20	109	0
1,1-Dichloroethene	0.205	0.204	-	0.5	20	109	0
Carbon disulfide	0.612	0.565	-	7.7	20	104	0
Freon-113	0.222	0.216	-	2.7	20	107	0
Acrolein	0.035	0.033	-	5.7	20	103	0
Methylene chloride	0.233	0.216	-	7.3	20	104	0
Acetone	40	41.962	-	-4.9	20	114	0
trans-1,2-Dichloroethene	0.239	0.239	-	0	20	111	0
Methyl acetate	0.197	0.172	-	12.7	20	101	0
Methyl tert-butyl ether	0.577	0.555	-	3.8	20	109	0
tert-Butyl alcohol	0.024	0.022	-	8.3	20	99	0
Diisopropyl ether	0.955	0.895	-	6.3	20	106	0
1,1-Dichloroethane	0.424	0.405	-	4.5	20	107	0
Halothane	0.198	0.197	-	0.5	20	111	0
Acrylonitrile	0.084	0.077	-	8.3	20	101	0
Ethyl tert-butyl ether	0.749	0.722	-	3.6	20	109	0
Vinyl acetate	0.663	0.628	-	5.3	20	105	0
cis-1,2-Dichloroethene	0.262	0.26	-	0.8	20	111	0
2,2-Dichloropropane	0.33	0.328	-	0.6	20	111	0
Bromochloromethane	0.123	0.126	-	-2.4	20	110	0
Cyclohexane	0.447	0.417	-	6.7	20	105	0
Chloroform	0.421	0.408	-	3.1	20	110	0
Ethyl acetate	0.287	0.248	-	13.6	20	102	0
Carbon tetrachloride	0.322	0.314	-	2.5	20	108	0
Tetrahydrofuran	0.092	0.078	-	15.2	20	100	-.01
Dibromofluoromethane	0.26	0.26	-	0	20	110	0
1,1,1-Trichloroethane	0.331	0.33	-	0.3	20	109	0
2-Butanone	0.141	0.125	-	11.3	20	110	-.01
1,1-Dichloropropene	0.296	0.286	-	3.4	20	107	0
Benzene	0.894	0.861	-	3.7	20	108	0
tert-Amyl methyl ether	0.612	0.587	-	4.1	20	109	0
1,2-Dichloroethane-d4	0.252	0.242	-	4	20	108	0
1,2-Dichloroethane	0.306	0.288	-	5.9	20	109	0
Methyl cyclohexane	0.423	0.412	-	2.6	20	108	0
Trichloroethene	0.241	0.238	-	1.2	20	110	0
Dibromomethane	0.135	0.132	-	2.2	20	112	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2236315		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-007		
Instrument ID	: VOA100	Calibration Date	: 07/15/22 09:05		
Lab File ID	: V00220715A01	Init. Calib. Date(s)	: 07/14/22	07/14/22	
Sample No	: WG1664114-2	Init. Calib. Times	: 19:30	22:58	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.249	0.234	-	6	20	107	0
2-Chloroethyl vinyl ether	0.143	0.136	-	4.9	20	107	0
Bromodichloromethane	0.312	0.304	-	2.6	20	109	0
1,4-Dioxane	0.0019	0.00179*	-	5.8	20	94	0
cis-1,3-Dichloropropene	0.362	0.358	-	1.1	20	109	0
Chlorobenzene-d5	1	1	-	0	20	110	0
Toluene-d8	1.233	1.22	-	1.1	20	110	0
Toluene	0.788	0.733	-	7	20	109	0
4-Methyl-2-pentanone	0.108	0.1	-	7.4	20	104	0
Tetrachloroethene	0.361	0.367	-	-1.7	20	111	0
trans-1,3-Dichloropropene	0.404	0.391	-	3.2	20	109	0
Ethyl methacrylate	0.347	0.33	-	4.9	20	107	0
1,1,2-Trichloroethane	0.198	0.189*	-	4.5	20	109	0
Chlorodibromomethane	0.308	0.313	-	-1.6	20	111	0
1,3-Dichloropropane	0.411	0.39	-	5.1	20	109	0
1,2-Dibromoethane	0.247	0.245	-	0.8	20	109	0
2-Hexanone	0.248	0.229	-	7.7	20	108	0
Chlorobenzene	0.88	0.867	-	1.5	20	110	0
Ethylbenzene	1.405	1.325	-	5.7	20	106	0
1,1,1,2-Tetrachloroethane	0.305	0.315	-	-3.3	20	111	0
p/m Xylene	0.582	0.552	-	5.2	20	107	0
o Xylene	0.541	0.538	-	0.6	20	107	0
Styrene	0.921	0.876	-	4.9	20	107	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	106	0
Bromoform	0.378	0.372	-	1.6	20	109	0
Isopropylbenzene	2.643	2.563	-	3	20	107	0
4-Bromofluorobenzene	0.79	0.768	-	2.8	20	107	0
Bromobenzene	0.715	0.693	-	3.1	20	109	0
n-Propylbenzene	2.968	2.833	-	4.5	20	105	0
1,4-Dichlorobutane	0.882	0.794	-	10	20	106	0
1,1,2,2-Tetrachloroethane	0.563	0.525	-	6.7	20	107	0
4-Ethyltoluene	2.615	2.528	-	3.3	20	106	0
2-Chlorotoluene	1.728	1.645	-	4.8	20	107	0
1,3,5-Trimethylbenzene	2.169	2.091	-	3.6	20	104	0
1,2,3-Trichloropropane	0.449	0.412	-	8.2	20	107	0
trans-1,4-Dichloro-2-buten	0.21	0.198	-	5.7	20	108	0
4-Chlorotoluene	1.795	1.698	-	5.4	20	106	0
tert-Butylbenzene	1.966	1.929	-	1.9	20	105	0
1,2,4-Trimethylbenzene	2.151	2.083	-	3.2	20	104	0
sec-Butylbenzene	2.875	2.811	-	2.2	20	103	0
p-Isopropyltoluene	2.525	2.495	-	1.2	20	104	0
1,3-Dichlorobenzene	1.372	1.327	-	3.3	20	106	0
1,4-Dichlorobenzene	1.439	1.332	-	7.4	20	107	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2236315		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	**Project Number**	: 134206-007		
Instrument ID	: VOA100	**Calibration Date**	: 07/15/22 09:05		
Lab File ID	: V00220715A01	**Init. Calib. Date(s)**	: 07/14/22	07/14/22	
Sample No	: WG1664114-2	**Init. Calib. Times**	: 19:30	22:58	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.543	1.516	-	1.7	20	103	0
n-Butylbenzene	2.085	2.001	-	4	20	102	0
1,2-Dichlorobenzene	1.273	1.233	-	3.1	20	106	0
1,2,4,5-Tetramethylbenzene	2.243	2.225	-	0.8	20	102	0
1,2-Dibromo-3-chloropropan	0.114	0.11	-	3.5	20	101	0
1,3,5-Trichlorobenzene	1.06	1.043	-	1.6	20	103	0
Hexachlorobutadiene	0.542	0.532	-	1.8	20	99	0
1,2,4-Trichlorobenzene	0.968	0.946	-	2.3	20	102	0
Naphthalene	2.042	1.966	-	3.7	20	100	0
1,2,3-Trichlorobenzene	0.89	0.857	-	3.7	20	101	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2236795
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-007
Report Date:	07/22/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236795-01	HA22-B5_139.0-141.0	SOIL	BOSTON, MA	07/11/22 10:20	07/11/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2236795-01: A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question H:

The WG1663913-5 Method Blank, associated with L2236795-01, has a concentration above the reporting limit for styrene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

L2236795-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromochloromethane (0.0998), bromodichloromethane (0.2690), 1,4-dioxane (0.0013), 1,1,2-trichloroethane (0.1901)

Average Response Factor: 1,4-dioxane

Semivolatile Organics

L2236795-01, WG1661557-1, -2, and -3: The initial calibration utilized a quadratic fit for 2,4,6-Tribromophenol.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 07/22/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236795

Report Date: 07/22/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1661557-2	2,4-Dinitrophenol	LCS	26	30-130	01	potential low bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236795

Project Number: 134206-007 **Report Date:** 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01
Client ID: HA22-B5_139.0-141.0
Sample Location: BOSTON, MA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/15/22 13:21
Analyst: LAC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.6	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.7	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	ND		ug/kg	0.56	--	1
Chlorobenzene	ND		ug/kg	0.56	--	1
Trichlorofluoromethane	ND		ug/kg	4.5	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.56	--	1
Bromodichloromethane	ND		ug/kg	0.56	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.56	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.56	--	1
1,1-Dichloropropene	ND		ug/kg	0.56	--	1
Bromoform	ND		ug/kg	4.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Benzene	ND		ug/kg	0.56	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.5	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236795

Project Number: 134206-007 **Report Date:** 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01 Date Collected: 07/11/22 10:20

Client ID: HA22-B5_139.0-141.0 Date Received: 07/11/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.56	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	ND		ug/kg	28	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.5	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	--	1
Hexachlorobutadiene	ND		ug/kg	4.5	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.5	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236795

Project Number: 134206-007 **Report Date:** 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01 Date Collected: 07/11/22 10:20

Client ID: HA22-B5_139.0-141.0 Date Received: 07/11/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	90	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	98		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 11:25
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1663913-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 11:25
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1663913-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	1.0		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/15/22 11:25
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1663913-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1663913-3 WG1663913-4								
Methylene chloride	89		82		70-130	8		20
1,1-Dichloroethane	95		86		70-130	10		20
Chloroform	95		87		70-130	9		20
Carbon tetrachloride	97		84		70-130	14		20
1,2-Dichloropropane	98		91		70-130	7		20
Dibromochloromethane	100		95		70-130	5		20
1,1,2-Trichloroethane	100		95		70-130	5		20
Tetrachloroethene	99		86		70-130	14		20
Chlorobenzene	98		90		70-130	9		20
Trichlorofluoromethane	97		83		70-130	16		20
1,2-Dichloroethane	96		91		70-130	5		20
1,1,1-Trichloroethane	97		85		70-130	13		20
Bromodichloromethane	99		92		70-130	7		20
trans-1,3-Dichloropropene	99		94		70-130	5		20
cis-1,3-Dichloropropene	99		92		70-130	7		20
1,1-Dichloropropene	99		85		70-130	15		20
Bromoform	84		79		70-130	6		20
1,1,2,2-Tetrachloroethane	96		93		70-130	3		20
Benzene	98		88		70-130	11		20
Toluene	99		89		70-130	11		20
Ethylbenzene	101		91		70-130	10		20
Chloromethane	91		81		70-130	12		20
Bromomethane	93		81		70-130	14		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1663913-3 WG1663913-4								
Vinyl chloride	96		80		70-130	18		20
Chloroethane	96		84		70-130	13		20
1,1-Dichloroethene	96		83		70-130	15		20
trans-1,2-Dichloroethene	96		84		70-130	13		20
Trichloroethene	100		88		70-130	13		20
1,2-Dichlorobenzene	98		91		70-130	7		20
1,3-Dichlorobenzene	98		91		70-130	7		20
1,4-Dichlorobenzene	100		92		70-130	8		20
Methyl tert butyl ether	97		92		70-130	5		20
p/m-Xylene	102		92		70-130	10		20
o-Xylene	102		93		70-130	9		20
cis-1,2-Dichloroethene	94		87		70-130	8		20
Dibromomethane	96		90		70-130	6		20
1,2,3-Trichloropropane	96		91		70-130	5		20
Styrene	95		87		70-130	9		20
Dichlorodifluoromethane	96		80		70-130	18		20
Acetone	120		101		70-130	17		20
Carbon disulfide	90		79		70-130	13		20
Methyl ethyl ketone	98		93		70-130	5		20
Methyl isobutyl ketone	105		98		70-130	7		20
2-Hexanone	106		97		70-130	9		20
Bromochloromethane	98		90		70-130	9		20
Tetrahydrofuran	95		88		70-130	8		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1663913-3 WG1663913-4								
2,2-Dichloropropane	98		87		70-130	12		20
1,2-Dibromoethane	101		95		70-130	6		20
1,3-Dichloropropane	98		93		70-130	5		20
1,1,1,2-Tetrachloroethane	100		93		70-130	7		20
Bromobenzene	97		90		70-130	7		20
n-Butylbenzene	100		89		70-130	12		20
sec-Butylbenzene	103		91		70-130	12		20
tert-Butylbenzene	100		89		70-130	12		20
o-Chlorotoluene	98		90		70-130	9		20
p-Chlorotoluene	100		93		70-130	7		20
1,2-Dibromo-3-chloropropane	93		89		70-130	4		20
Hexachlorobutadiene	101		89		70-130	13		20
Isopropylbenzene	98		88		70-130	11		20
p-Isopropyltoluene	101		90		70-130	12		20
Naphthalene	102		96		70-130	6		20
n-Propylbenzene	100		90		70-130	11		20
1,2,3-Trichlorobenzene	106		99		70-130	7		20
1,2,4-Trichlorobenzene	102		94		70-130	8		20
1,3,5-Trimethylbenzene	99		91		70-130	8		20
1,2,4-Trimethylbenzene	100		92		70-130	8		20
Diethyl ether	98		93		70-130	5		20
Diisopropyl Ether	99		92		70-130	7		20
Ethyl-Tert-Butyl-Ether	98		92		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236795

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1663913-3 WG1663913-4								
Tertiary-Amyl Methyl Ether	100		93		70-130	7		20
1,4-Dioxane	98		93		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		94		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01
Client ID: HA22-B5_139.0-141.0
Sample Location: BOSTON, MA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/14/22 04:18
Analyst: SZ
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 11:19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	170	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	--	1
Hexachlorobenzene	ND		ug/kg	88	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	88	--	1
2-Chloronaphthalene	ND		ug/kg	210	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	88	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	--	1
2,4-Dinitrotoluene	ND		ug/kg	88	--	1
2,6-Dinitrotoluene	ND		ug/kg	210	--	1
Azobenzene	ND		ug/kg	210	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	88	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Hexachloroethane	ND		ug/kg	88	--	1
Isophorone	ND		ug/kg	190	--	1
Naphthalene	ND		ug/kg	210	--	1
Nitrobenzene	ND		ug/kg	190	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	--	1
Butyl benzyl phthalate	ND		ug/kg	210	--	1
Di-n-butylphthalate	ND		ug/kg	210	--	1
Di-n-octylphthalate	ND		ug/kg	210	--	1
Diethyl phthalate	ND		ug/kg	210	--	1
Dimethyl phthalate	ND		ug/kg	88	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236795

Project Number: 134206-007 **Report Date:** 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01 Date Collected: 07/11/22 10:20

Client ID: HA22-B5_139.0-141.0 Date Received: 07/11/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	170	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	170	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	170	--	1
Fluorene	ND		ug/kg	210	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	88	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	250	--	1
4-Chloroaniline	ND		ug/kg	210	--	1
Dibenzofuran	ND		ug/kg	210	--	1
2-Methylnaphthalene	ND		ug/kg	88	--	1
Acetophenone	ND		ug/kg	210	--	1
2,4,6-Trichlorophenol	ND		ug/kg	88	--	1
2-Chlorophenol	ND		ug/kg	88	--	1
2,4-Dichlorophenol	ND		ug/kg	88	--	1
2,4-Dimethylphenol	ND		ug/kg	88	--	1
2-Nitrophenol	ND		ug/kg	450	--	1
4-Nitrophenol	ND		ug/kg	290	--	1
2,4-Dinitrophenol	ND		ug/kg	1000	--	1
Pentachlorophenol	ND		ug/kg	420	--	1
Phenol	ND		ug/kg	210	--	1
2-Methylphenol	ND		ug/kg	210	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	--	1
2,4,5-Trichlorophenol	ND		ug/kg	210	--	1
Pyridine	ND		ug/kg	230	--	1
Biphenyl	ND		ug/kg	42	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236795

Project Number: 134206-007 **Report Date:** 07/22/22

SAMPLE RESULTS

Lab ID:	L2236795-01	Date Collected:	07/11/22 10:20
Client ID:	HA22-B5_139.0-141.0	Date Received:	07/11/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	66		30-130
2-Fluorobiphenyl	75		30-130
2,4,6-Tribromophenol	94		30-130
4-Terphenyl-d14	72		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/12/22 19:18
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/12/22 03:12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1661557-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	170	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/12/22 19:18
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/12/22 03:12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1661557-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	170	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/12/22 19:18
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/12/22 03:12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1661557-1					
Biphenyl	ND		ug/kg	32	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		30-130
Phenol-d6	80		30-130
Nitrobenzene-d5	71		30-130
2-Fluorobiphenyl	75		30-130
2,4,6-Tribromophenol	90		30-130
4-Terphenyl-d14	79		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1661557-2 WG1661557-3								
Acenaphthene	72		78		40-140	8		30
1,2,4-Trichlorobenzene	78		81		40-140	4		30
Hexachlorobenzene	96		101		40-140	5		30
Bis(2-chloroethyl)ether	74		77		40-140	4		30
2-Chloronaphthalene	84		87		40-140	4		30
1,2-Dichlorobenzene	73		77		40-140	5		30
1,3-Dichlorobenzene	70		76		40-140	8		30
1,4-Dichlorobenzene	71		75		40-140	5		30
3,3'-Dichlorobenzidine	83		89		40-140	7		30
2,4-Dinitrotoluene	77		85		40-140	10		30
2,6-Dinitrotoluene	83		88		40-140	6		30
Azobenzene	83		90		40-140	8		30
Fluoranthene	78		86		40-140	10		30
4-Bromophenyl phenyl ether	86		93		40-140	8		30
Bis(2-chloroisopropyl)ether	72		73		40-140	1		30
Bis(2-chloroethoxy)methane	78		82		40-140	5		30
Hexachlorobutadiene	81		82		40-140	1		30
Hexachloroethane	66		71		40-140	7		30
Isophorone	79		84		40-140	6		30
Naphthalene	78		80		40-140	3		30
Nitrobenzene	83		85		40-140	2		30
Bis(2-ethylhexyl)phthalate	76		80		40-140	5		30
Butyl benzyl phthalate	82		89		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1661557-2 WG1661557-3								
Di-n-butylphthalate	85		93		40-140	9		30
Di-n-octylphthalate	77		82		40-140	6		30
Diethyl phthalate	78		84		40-140	7		30
Dimethyl phthalate	85		88		40-140	3		30
Benzo(a)anthracene	80		87		40-140	8		30
Benzo(a)pyrene	84		94		40-140	11		30
Benzo(b)fluoranthene	80		88		40-140	10		30
Benzo(k)fluoranthene	82		89		40-140	8		30
Chrysene	74		81		40-140	9		30
Acenaphthylene	86		89		40-140	3		30
Anthracene	75		82		40-140	9		30
Benzo(ghi)perylene	84		92		40-140	9		30
Fluorene	77		83		40-140	8		30
Phenanthrene	74		81		40-140	9		30
Dibenzo(a,h)anthracene	89		97		40-140	9		30
Indeno(1,2,3-cd)pyrene	98		107		40-140	9		30
Pyrene	77		85		40-140	10		30
Aniline	60		61		40-140	2		30
4-Chloroaniline	76		78		40-140	3		30
Dibenzofuran	77		83		40-140	8		30
2-Methylnaphthalene	81		83		40-140	2		30
Acetophenone	78		81		40-140	4		30
2,4,6-Trichlorophenol	98		100		30-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236795

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1661557-2 WG1661557-3								
2-Chlorophenol	78		82		30-130	5		30
2,4-Dichlorophenol	86		90		30-130	5		30
2,4-Dimethylphenol	84		88		30-130	5		30
2-Nitrophenol	71		75		30-130	5		30
4-Nitrophenol	79		85		30-130	7		30
2,4-Dinitrophenol	**26**	Q	30		30-130	14		30
Pentachlorophenol	83		89		30-130	7		30
Phenol	81		87		30-130	7		30
2-Methylphenol	86		89		30-130	3		30
3-Methylphenol/4-Methylphenol	91		94		30-130	3		30
2,4,5-Trichlorophenol	99		101		30-130	2		30
Pyridine	48		63		30-130	27		30
Biphenyl	80		83		40-140	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	83		86		30-130
Phenol-d6	87		90		30-130
Nitrobenzene-d5	80		82		30-130
2-Fluorobiphenyl	83		85		30-130
2,4,6-Tribromophenol	105		111		30-130
4-Terphenyl-d14	84		91		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01
Client ID: HA22-B5_139.0-141.0
Sample Location: BOSTON, MA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/18/22 10:04
Analyst: SR
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 07/17/22 09:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	40800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	51		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/18/22 09:29
Analyst: SR

Extraction Method: EPA 3546
Extraction Date: 07/17/22 09:17

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1663813-1					
TPH (C10-C36)	ND		ug/kg	31500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	77		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236795

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1663813-2								
TPH (C10-C36)	95		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	80				40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1663813-3 QC Sample: L2236795-01 Client ID: HA22-B5_139.0-141.0						
TPH (C10-C36)	ND	ND	ug/kg	NC		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	51		52		40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01
Client ID: HA22-B5_139.0-141.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/13/22 11:12
Analyst: JM
Percent Solids: 77%

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/12/22 09:42
Cleanup Method: EPA 3665A
Cleanup Date: 07/12/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/13/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.0	--	1	A
Aroclor 1221	ND		ug/kg	41.0	--	1	A
Aroclor 1232	ND		ug/kg	41.0	--	1	A
Aroclor 1242	ND		ug/kg	41.0	--	1	A
Aroclor 1248	ND		ug/kg	41.0	--	1	A
Aroclor 1254	ND		ug/kg	41.0	--	1	A
Aroclor 1260	ND		ug/kg	41.0	--	1	A
Aroclor 1262	ND		ug/kg	41.0	--	1	A
Aroclor 1268	ND		ug/kg	41.0	--	1	A
PCBs, Total	ND		ug/kg	41.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	52		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/13/22 11:58
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 07/12/22 09:42
Cleanup Method: EPA 3665A
Cleanup Date: 07/12/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/13/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1661726-1						
Aroclor 1016	ND		ug/kg	32.3	--	A
Aroclor 1221	ND		ug/kg	32.3	--	A
Aroclor 1232	ND		ug/kg	32.3	--	A
Aroclor 1242	ND		ug/kg	32.3	--	A
Aroclor 1248	ND		ug/kg	32.3	--	A
Aroclor 1254	ND		ug/kg	32.3	--	A
Aroclor 1260	ND		ug/kg	32.3	--	A
Aroclor 1262	ND		ug/kg	32.3	--	A
Aroclor 1268	ND		ug/kg	32.3	--	A
PCBs, Total	ND		ug/kg	32.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	76		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	66		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236795

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1661726-2 WG1661726-3									
Aroclor 1016	76		68		40-140	11		30	A
Aroclor 1260	70		62		40-140	12		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		66		30-150	B
Decachlorobiphenyl	84		74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		66		30-150	A
Decachlorobiphenyl	74		66		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2236795
Project Number: 134206-007
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01
Client ID: HA22-B5_139.0-141.0
Sample Location: BOSTON, MA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.45	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Arsenic, Total	8.77		mg/kg	0.490	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Barium, Total	12.8		mg/kg	0.490	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Beryllium, Total	0.284		mg/kg	0.245	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Cadmium, Total	1.10		mg/kg	0.490	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Chromium, Total	67.5		mg/kg	0.490	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Lead, Total	6.40		mg/kg	2.45	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Mercury, Total	ND		mg/kg	0.10	--	1	07/15/22 13:21	07/19/22 11:12	EPA 7471B	97,7471B	DMB
Nickel, Total	16.7		mg/kg	1.22	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Selenium, Total	ND		mg/kg	2.45	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Silver, Total	ND		mg/kg	0.490	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Thallium, Total	ND		mg/kg	2.45	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Vanadium, Total	19.7		mg/kg	0.490	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV
Zinc, Total	39.3		mg/kg	2.45	--	1	07/15/22 07:35	07/20/22 00:50	EPA 3050B	97,6010D	BV

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2236795

Project Number: 134206-007 **Report Date:** 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662954-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Arsenic, Total	ND		mg/kg	0.400	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Barium, Total	ND		mg/kg	0.400	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Beryllium, Total	ND		mg/kg	0.200	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Cadmium, Total	ND		mg/kg	0.400	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Chromium, Total	ND		mg/kg	0.400	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Lead, Total	ND		mg/kg	2.00	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Nickel, Total	ND		mg/kg	1.00	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Selenium, Total	ND		mg/kg	2.00	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Silver, Total	ND		mg/kg	0.400	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Thallium, Total	ND		mg/kg	2.00	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Vanadium, Total	ND		mg/kg	0.400	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV
Zinc, Total	ND		mg/kg	2.00	--	1	07/15/22 07:35	07/20/22 00:14	97,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662955-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/15/22 13:21	07/19/22 10:48	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2236795
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662954-2 WG1662954-3 SRM Lot Number: D113-540								
Antimony, Total	143		136		20-250	5		30
Arsenic, Total	91		94		70-130	3		30
Barium, Total	79		86		75-125	8		30
Beryllium, Total	85		101		75-125	17		30
Cadmium, Total	86		92		75-125	7		30
Chromium, Total	85		91		70-130	7		30
Lead, Total	84		84		72-128	0		30
Nickel, Total	82		87		70-130	6		30
Selenium, Total	87		90		66-134	3		30
Silver, Total	88		87		70-131	1		30
Thallium, Total	82		89		70-130	8		30
Vanadium, Total	87		92		74-126	6		30
Zinc, Total	84		87		70-130	4		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662955-2 WG1662955-3 SRM Lot Number: D113-540								
Mercury, Total	86		88		60-140	2		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

SAMPLE RESULTS

Lab ID:	L2236795-01	Date Collected:	07/11/22 10:20
Client ID:	HA22-B5_139.0-141.0	Date Received:	07/11/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/18/22 11:41	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2236795-01
Client ID: HA22-B5_139.0-141.0
Sample Location: BOSTON, MA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	320		umhos/cm	10	--	1	-	07/12/22 20:52	1,9050A	AS
Solids, Total	77.0		%	0.100	NA	1	-	07/12/22 13:18	121,2540G	RI
pH (H)	8.5		SU	-	NA	1	-	07/12/22 18:21	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/19/22 12:25	07/19/22 14:35	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	07/19/22 12:25	07/19/22 13:59	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2236795

Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1664240-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/19/22 12:25	07/19/22 13:53	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1664599-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/19/22 12:25	07/19/22 14:29	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2236795

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1661953-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1661990-1								
Specific Conductance	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1664240-2								
Sulfide, Reactive	96		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1664599-2								
Cyanide, Reactive	81		-		30-125	-		40

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2236795
Report Date: 07/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236795-01A	Vial MeOH preserved	A	NA		3.1	Y	Absent		MCP-8260HLW-21(14)
L2236795-01B	Vial water preserved	A	NA		3.1	Y	Absent	11-JUL-22 20:13	MCP-8260HLW-21(14)
L2236795-01C	Vial water preserved	A	NA		3.1	Y	Absent	11-JUL-22 20:13	MCP-8260HLW-21(14)
L2236795-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2236795-01E	Vial Large Septa unpreserved (4oz)	A	NA		3.1	Y	Absent		MCP-8260HLW-21(14)
L2236795-01F	Glass 120ml/4oz unpreserved/No Headspace	A	NA		3.1	Y	Absent		HEXCR-RELOG()
L2236795-01G	Glass 250ml/8oz unpreserved	A	NA		3.1	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2236795-01H	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),HOLD-WETCHEM(),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2236795
Project Number:	134206-007	**Report Date:**	07/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/11/22

ALPHA Job #: L2236795

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
36795 -01	HA22-BS_139.0-141.0	7/11/2022	1020	SO/N	KTD	139-141	x	x	x	x	x	x	x	x		8

8 TOTAL

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	A V	A	A	A	A	A	A	A
Preservative	F K	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/11/2022	[signature] AAL	15:56
[signature] AAL	7/11/22 17:21	[signature]	7/11/22 17:21

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2236795
Project Name	: MATTHEWS ARENA-NORTHEASTERN Univ	**Project Number**	: 134206-007
Lab Sample ID	: WG1663913-5	**Lab File ID**	: V26220715A05
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 07/15/22 11:25

Client Sample No.	Lab Sample ID	Analysis Date
WG1663913-3LCS	WG1663913-3	07/15/22 09:30
WG1663913-4LCSD	WG1663913-4	07/15/22 10:08
HA22-B5_139.0-141.0	L2236795-01	07/15/22 13:21

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2236795		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-007		
Instrument ID	: VOA126	Calibration Date	: 07/15/22 08:52		
Lab File ID	: V26220715A01	Init. Calib. Date(s)	: 07/13/22	07/14/22	
Sample No	: WG1663913-2	Init. Calib. Times	: 21:35	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	97	-.01
Dichlorodifluoromethane	0.23	0.223	-	3	20	93	0
Chloromethane	0.24	0.223	-	7.1	20	93	0
Vinyl chloride	0.306	0.3	-	2	20	92	0
Bromomethane	0.174	0.173	-	0.6	20	101	0
Chloroethane	0.144	0.141	-	2.1	20	94	0
Trichlorofluoromethane	0.354	0.345	-	2.5	20	93	0
Ethyl ether	0.099	0.099	-	0	20	95	0
1,1-Dichloroethene	0.195	0.191	-	2.1	20	94	0
Carbon disulfide	0.637	0.584	-	8.3	20	92	0
Freon-113	0.216	0.211	-	2.3	20	93	0
Acrolein	0.023	0.023	-	0	20	103	0
Methylene chloride	40	36.63	-	8.4	20	92	-.01
Acetone	40	46.828	-	-17.1	20	112	-.01
trans-1,2-Dichloroethene	0.229	0.22	-	3.9	20	92	0
Methyl acetate	0.095	0.095	-	0	20	104	0
Methyl tert-butyl ether	0.541	0.547	-	-1.1	20	97	0
tert-Butyl alcohol	0.017	0.017	-	0	20	105	0
Diisopropyl ether	0.652	0.654	-	-0.3	20	92	0
1,1-Dichloroethane	0.408	0.393	-	3.7	20	91	0
Halothane	0.175	0.168	-	4	20	91	-.01
Acrylonitrile	40	40.121	-	-0.3	20	102	-.01
Ethyl tert-butyl ether	0.664	0.664	-	0	20	94	0
Vinyl acetate	0.329	0.337	-	-2.4	20	99	-.01
cis-1,2-Dichloroethene	0.252	0.242	-	4	20	91	0
2,2-Dichloropropane	0.354	0.35	-	1.1	20	94	0
Bromochloromethane	0.107	0.104	-	2.8	20	93	0
Cyclohexane	0.371	0.367	-	1.1	20	93	0
Chloroform	0.43	0.41	-	4.7	20	89	0
Ethyl acetate	0.133	0.138	-	-3.8	20	102	0
Carbon tetrachloride	0.337	0.321	-	4.7	20	90	0
Tetrahydrofuran	40	39.953	-	0.1	20	101	0
Dibromofluoromethane	0.261	0.258	-	1.1	20	98	0
1,1,1-Trichloroethane	0.365	0.349	-	4.4	20	90	0
2-Butanone	0.066	0.068	-	-3	20	109	-.01
1,1-Dichloropropene	0.308	0.304	-	1.3	20	93	0
Benzene	0.919	0.909	-	1.1	20	91	0
tert-Amyl methyl ether	0.583	0.596	-	-2.2	20	95	0
1,2-Dichloroethane-d4	0.263	0.255	-	3	20	98	-.01
1,2-Dichloroethane	0.302	0.297	-	1.7	20	94	0
Methyl cyclohexane	0.4	0.393	-	1.8	20	93	-.01
Trichloroethene	0.238	0.23	-	3.4	20	91	0
Dibromomethane	0.128	0.126	-	1.6	20	95	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2236795		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-007		
Instrument ID	: VOA126	Calibration Date	: 07/15/22 08:52		
Lab File ID	: V26220715A01	Init. Calib. Date(s)	: 07/13/22	07/14/22	
Sample No	: WG1663913-2	Init. Calib. Times	: 21:35	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.227	0.226	-	0.4	20	92	0
2-Chloroethyl vinyl ether	0.094	0.094	-	0	20	97	0
Bromodichloromethane	0.311	0.308	-	1	20	90	0
1,4-Dioxane	0.00148	0.00146*	-	1.4	20	98	0
cis-1,3-Dichloropropene	0.353	0.352	-	0.3	20	93	0
Chlorobenzene-d5	1	1	-	0	20	96	0
Toluene-d8	1.39	1.389	-	0.1	20	95	0
Toluene	0.816	0.802	-	1.7	20	90	0
4-Methyl-2-pentanone	0.08	0.09	-	-12.5	20	103	0
Tetrachloroethene	0.326	0.318	-	2.5	20	91	0
trans-1,3-Dichloropropene	0.435	0.44	-	-1.1	20	92	0
Ethyl methacrylate	0.35	0.357	-	-2	20	96	0
1,1,2-Trichloroethane	0.201	0.206	-	-2.5	20	96	0
Chlorodibromomethane	0.281	0.284	-	-1.1	20	91	0
1,3-Dichloropropane	0.412	0.411	-	0.2	20	94	0
1,2-Dibromoethane	0.223	0.23	-	-3.1	20	95	0
2-Hexanone	0.143	0.162	-	-13.3	20	106	0
Chlorobenzene	0.88	0.857	-	2.6	20	90	0
Ethylbenzene	1.528	1.534	-	-0.4	20	89	0
1,1,1,2-Tetrachloroethane	0.312	0.307	-	1.6	20	88	0
p/m Xylene	0.6	0.611	-	-1.8	20	90	0
o Xylene	0.576	0.584	-	-1.4	20	89	0
Styrene	80	75.83	-	5.2	20	90	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	97	0
Bromoform	40	33.093	-	17.3	20	91	0
Isopropylbenzene	3.027	2.94	-	2.9	20	89	0
4-Bromofluorobenzene	0.917	0.909	-	0.9	20	97	0
Bromobenzene	0.703	0.682	-	3	20	91	0
n-Propylbenzene	3.594	3.563	-	0.9	20	90	0
1,4-Dichlorobutane	0.774	0.776	-	-0.3	20	96	0
1,1,2,2-Tetrachloroethane	0.557	0.568	-	-2	20	98	0
4-Ethyltoluene	2.937	2.946	-	-0.3	20	90	0
2-Chlorotoluene	2.429	2.374	-	2.3	20	90	0
1,3,5-Trimethylbenzene	2.556	2.53	-	1	20	89	0
1,2,3-Trichloropropane	0.41	0.404	-	1.5	20	96	0
trans-1,4-Dichloro-2-buten	0.198	0.203	-	-2.5	20	98	0
4-Chlorotoluene	2.161	2.151	-	0.5	20	90	0
tert-Butylbenzene	2.154	2.114	-	1.9	20	90	0
1,2,4-Trimethylbenzene	2.483	2.485	-	-0.1	20	91	0
sec-Butylbenzene	3.256	3.29	-	-1	20	91	0
p-Isopropyltoluene	2.773	2.769	-	0.1	20	90	0
1,3-Dichlorobenzene	1.382	1.357	-	1.8	20	91	0
1,4-Dichlorobenzene	1.36	1.337	-	1.7	20	92	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2236795		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	**Project Number**	: 134206-007		
Instrument ID	: VOA126	**Calibration Date**	: 07/15/22 08:52		
Lab File ID	: V26220715A01	**Init. Calib. Date(s)**	: 07/13/22	07/14/22	
Sample No	: WG1663913-2	**Init. Calib. Times**	: 21:35	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.724	1.743	-	-1.1	20	91	0
n-Butylbenzene	3.193	3.162	-	1	20	89	0
1,2-Dichlorobenzene	1.253	1.231	-	1.8	20	92	0
1,2,4,5-Tetramethylbenzene	2.393	2.473	-	-3.3	20	91	0
1,2-Dibromo-3-chloropropan	0.078	0.076	-	2.6	20	95	0
1,3,5-Trichlorobenzene	0.897	0.923	-	-2.9	20	96	0
Hexachlorobutadiene	0.393	0.388	-	1.3	20	93	0
1,2,4-Trichlorobenzene	0.745	0.763	-	-2.4	20	97	0
Naphthalene	1.461	1.524	-	-4.3	20	97	0
1,2,3-Trichlorobenzene	0.601	0.638	-	-6.2	20	97	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2237298
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-006
Report Date:	07/26/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237298-01	HA22-TP2_4.0-8.0	SOIL	BOSTON, MA	07/13/22 13:00	07/13/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2237298-01: A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question H:

L2237298-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0024)

Average Response Factor: 1,4-dioxane

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 07/26/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2237298

Report Date: 07/26/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1663117-2	2,4-Dinitrophenol	LCS	13	30-130	01	potential low bias
8270E	Batch QC	WG1663117-3	2,4-Dinitrophenol	LCSD	14	30-130	01	potential low bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237298

Project Number: 134206-006 **Report Date:** 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01
Client ID: HA22-TP2_4.0-8.0
Sample Location: BOSTON, MA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/20/22 00:45
Analyst: JC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.74	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.74	--	1
1,2-Dichloropropane	ND		ug/kg	0.74	--	1
Dibromochloromethane	ND		ug/kg	0.74	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.74	--	1
Tetrachloroethene	ND		ug/kg	0.37	--	1
Chlorobenzene	ND		ug/kg	0.37	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.74	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	--	1
Bromodichloromethane	ND		ug/kg	0.37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.74	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	--	1
1,1-Dichloropropene	ND		ug/kg	0.37	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Benzene	ND		ug/kg	0.37	--	1
Toluene	ND		ug/kg	0.74	--	1
Ethylbenzene	ND		ug/kg	0.74	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.74	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.74	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237298

Project Number: 134206-006 **Report Date:** 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01 Date Collected: 07/13/22 13:00

Client ID: HA22-TP2_4.0-8.0 Date Received: 07/13/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.37	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.74	--	1
Xylenes, Total	ND		ug/kg	0.74	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.74	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.74	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.74	--	1
Dichlorodifluoromethane	ND		ug/kg	7.4	--	1
Acetone	ND		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.4	--	1
Methyl ethyl ketone	ND		ug/kg	7.4	--	1
Methyl isobutyl ketone	ND		ug/kg	7.4	--	1
2-Hexanone	ND		ug/kg	7.4	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.74	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.74	--	1
sec-Butylbenzene	ND		ug/kg	0.74	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.74	--	1
p-Isopropyltoluene	ND		ug/kg	0.74	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.74	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237298

Project Number: 134206-006 **Report Date:** 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01 Date Collected: 07/13/22 13:00

Client ID: HA22-TP2_4.0-8.0 Date Received: 07/13/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	59	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/19/22 20:33
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1665269-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/19/22 20:33
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1665269-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/19/22 20:33
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1665269-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1665269-3 WG1665269-4								
Methylene chloride	94		97		70-130	3		20
1,1-Dichloroethane	83		85		70-130	2		20
Chloroform	85		87		70-130	2		20
Carbon tetrachloride	78		80		70-130	3		20
1,2-Dichloropropane	88		90		70-130	2		20
Dibromochloromethane	87		91		70-130	4		20
1,1,2-Trichloroethane	90		93		70-130	3		20
Tetrachloroethene	82		83		70-130	1		20
Chlorobenzene	84		87		70-130	4		20
Trichlorofluoromethane	81		81		70-130	0		20
1,2-Dichloroethane	89		91		70-130	2		20
1,1,1-Trichloroethane	82		82		70-130	0		20
Bromodichloromethane	87		88		70-130	1		20
trans-1,3-Dichloropropene	89		92		70-130	3		20
cis-1,3-Dichloropropene	88		90		70-130	2		20
1,1-Dichloropropene	85		85		70-130	0		20
Bromoform	82		86		70-130	5		20
1,1,2,2-Tetrachloroethane	83		89		70-130	7		20
Benzene	85		86		70-130	1		20
Toluene	81		82		70-130	1		20
Ethylbenzene	83		85		70-130	2		20
Chloromethane	76		78		70-130	3		20
Bromomethane	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1665269-3 WG1665269-4								
Vinyl chloride	80		80		70-130	0		20
Chloroethane	87		84		70-130	4		20
1,1-Dichloroethene	83		82		70-130	1		20
trans-1,2-Dichloroethene	87		87		70-130	0		20
Trichloroethene	88		88		70-130	0		20
1,2-Dichlorobenzene	84		89		70-130	6		20
1,3-Dichlorobenzene	83		87		70-130	5		20
1,4-Dichlorobenzene	83		86		70-130	4		20
Methyl tert butyl ether	91		91		70-130	0		20
p/m-Xylene	84		86		70-130	2		20
o-Xylene	85		87		70-130	2		20
cis-1,2-Dichloroethene	84		85		70-130	1		20
Dibromomethane	87		88		70-130	1		20
1,2,3-Trichloropropane	89		94		70-130	5		20
Styrene	86		88		70-130	2		20
Dichlorodifluoromethane	72		74		70-130	3		20
Acetone	122		124		70-130	2		20
Carbon disulfide	84		85		70-130	1		20
Methyl ethyl ketone	87		90		70-130	3		20
Methyl isobutyl ketone	91		96		70-130	5		20
2-Hexanone	91		96		70-130	5		20
Bromochloromethane	86		87		70-130	1		20
Tetrahydrofuran	85		82		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1665269-3 WG1665269-4								
2,2-Dichloropropane	82		82		70-130	0		20
1,2-Dibromoethane	89		93		70-130	4		20
1,3-Dichloropropane	88		93		70-130	6		20
1,1,1,2-Tetrachloroethane	87		89		70-130	2		20
Bromobenzene	84		88		70-130	5		20
n-Butylbenzene	84		88		70-130	5		20
sec-Butylbenzene	83		86		70-130	4		20
tert-Butylbenzene	82		86		70-130	5		20
o-Chlorotoluene	98		103		70-130	5		20
p-Chlorotoluene	86		88		70-130	2		20
1,2-Dibromo-3-chloropropane	82		89		70-130	8		20
Hexachlorobutadiene	78		85		70-130	9		20
Isopropylbenzene	82		86		70-130	5		20
p-Isopropyltoluene	84		87		70-130	4		20
Naphthalene	90		94		70-130	4		20
n-Propylbenzene	83		86		70-130	4		20
1,2,3-Trichlorobenzene	85		91		70-130	7		20
1,2,4-Trichlorobenzene	85		89		70-130	5		20
1,3,5-Trimethylbenzene	83		88		70-130	6		20
1,2,4-Trimethylbenzene	86		89		70-130	3		20
Diethyl ether	94		93		70-130	1		20
Diisopropyl Ether	92		93		70-130	1		20
Ethyl-Tert-Butyl-Ether	92		94		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2237298

Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1665269-3 WG1665269-4								
Tertiary-Amyl Methyl Ether	90		93		70-130	3		20
1,4-Dioxane	101		105		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	102		103		70-130
Dibromofluoromethane	97		96		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01
Client ID: HA22-TP2_4.0-8.0
Sample Location: BOSTON, MA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/19/22 09:47
Analyst: SZ
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 23:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	380		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	76	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	76	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	76	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	76	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	3200		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	76	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	76	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	76	--	1
Benzo(a)anthracene	1500		ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237298

Project Number: 134206-006 **Report Date:** 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01 Date Collected: 07/13/22 13:00

Client ID: HA22-TP2_4.0-8.0 Date Received: 07/13/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1300		ug/kg	140	--	1
Benzo(b)fluoranthene	1500		ug/kg	110	--	1
Benzo(k)fluoranthene	470		ug/kg	110	--	1
Chrysene	1500		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	750		ug/kg	110	--	1
Benzo(ghi)perylene	670		ug/kg	140	--	1
Fluorene	260		ug/kg	180	--	1
Phenanthrene	3200		ug/kg	110	--	1
Dibenzo(a,h)anthracene	180		ug/kg	76	--	1
Indeno(1,2,3-cd)pyrene	800		ug/kg	140	--	1
Pyrene	2800		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	240		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	76	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	76	--	1
2-Chlorophenol	ND		ug/kg	76	--	1
2,4-Dichlorophenol	ND		ug/kg	76	--	1
2,4-Dimethylphenol	ND		ug/kg	76	--	1
2-Nitrophenol	ND		ug/kg	390	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	870	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	36	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237298

Project Number: 134206-006 **Report Date:** 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01 Date Collected: 07/13/22 13:00

Client ID: HA22-TP2_4.0-8.0 Date Received: 07/13/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		30-130
Phenol-d6	72		30-130
Nitrobenzene-d5	76		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	67		30-130
4-Terphenyl-d14	70		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/17/22 21:02
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/14/22 23:56

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1663117-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/17/22 21:02
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/14/22 23:56

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1663117-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/17/22 21:02
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/14/22 23:56

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1663117-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		30-130
Phenol-d6	88		30-130
Nitrobenzene-d5	82		30-130
2-Fluorobiphenyl	79		30-130
2,4,6-Tribromophenol	82		30-130
4-Terphenyl-d14	88		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1663117-2 WG1663117-3								
Acenaphthene	79		79		40-140	0		30
1,2,4-Trichlorobenzene	68		72		40-140	6		30
Hexachlorobenzene	70		76		40-140	8		30
Bis(2-chloroethyl)ether	77		77		40-140	0		30
2-Chloronaphthalene	72		78		40-140	8		30
1,2-Dichlorobenzene	69		70		40-140	1		30
1,3-Dichlorobenzene	68		70		40-140	3		30
1,4-Dichlorobenzene	66		71		40-140	7		30
3,3'-Dichlorobenzidine	67		68		40-140	1		30
2,4-Dinitrotoluene	70		75		40-140	7		30
2,6-Dinitrotoluene	69		74		40-140	7		30
Azobenzene	76		80		40-140	5		30
Fluoranthene	77		80		40-140	4		30
4-Bromophenyl phenyl ether	76		78		40-140	3		30
Bis(2-chloroisopropyl)ether	93		95		40-140	2		30
Bis(2-chloroethoxy)methane	78		80		40-140	3		30
Hexachlorobutadiene	67		66		40-140	2		30
Hexachloroethane	50		52		40-140	4		30
Isophorone	71		74		40-140	4		30
Naphthalene	73		75		40-140	3		30
Nitrobenzene	75		77		40-140	3		30
Bis(2-ethylhexyl)phthalate	75		78		40-140	4		30
Butyl benzyl phthalate	74		79		40-140	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1663117-2 WG1663117-3								
Di-n-butylphthalate	74		73		40-140	1		30
Di-n-octylphthalate	74		77		40-140	4		30
Diethyl phthalate	68		70		40-140	3		30
Dimethyl phthalate	67		73		40-140	9		30
Benzo(a)anthracene	74		76		40-140	3		30
Benzo(a)pyrene	70		74		40-140	6		30
Benzo(b)fluoranthene	71		73		40-140	3		30
Benzo(k)fluoranthene	73		75		40-140	3		30
Chrysene	75		77		40-140	3		30
Acenaphthylene	73		80		40-140	9		30
Anthracene	80		83		40-140	4		30
Benzo(ghi)perylene	68		69		40-140	1		30
Fluorene	78		80		40-140	3		30
Phenanthrene	77		79		40-140	3		30
Dibenzo(a,h)anthracene	70		72		40-140	3		30
Indeno(1,2,3-cd)pyrene	79		82		40-140	4		30
Pyrene	76		82		40-140	8		30
Aniline	53		58		40-140	9		30
4-Chloroaniline	80		86		40-140	7		30
Dibenzofuran	76		80		40-140	5		30
2-Methylnaphthalene	76		78		40-140	3		30
Acetophenone	70		72		40-140	3		30
2,4,6-Trichlorophenol	79		85		30-130	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2237298

Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1663117-2 WG1663117-3								
2-Chlorophenol	73		76		30-130	4		30
2,4-Dichlorophenol	78		82		30-130	5		30
2,4-Dimethylphenol	76		79		30-130	4		30
2-Nitrophenol	60		61		30-130	2		30
4-Nitrophenol	80		89		30-130	11		30
2,4-Dinitrophenol	**13**	Q	**14**	Q	30-130	7		30
Pentachlorophenol	83		94		30-130	12		30
Phenol	78		80		30-130	3		30
2-Methylphenol	77		80		30-130	4		30
3-Methylphenol/4-Methylphenol	82		87		30-130	6		30
2,4,5-Trichlorophenol	81		91		30-130	12		30
Pyridine	49		49		30-130	0		30
Biphenyl	73		79		40-140	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	73		77		30-130
Phenol-d6	79		82		30-130
Nitrobenzene-d5	78		79		30-130
2-Fluorobiphenyl	74		80		30-130
2,4,6-Tribromophenol	79		85		30-130
4-Terphenyl-d14	77		81		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01
Client ID: HA22-TP2_4.0-8.0
Sample Location: BOSTON, MA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/16/22 14:26
Analyst: MC
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 00:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	60900		ug/kg	35100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	76		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/16/22 14:26
Analyst: AL

Extraction Method: EPA 3546
Extraction Date: 07/14/22 23:59

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1663118-1					
TPH (C10-C36)	ND		ug/kg	31400	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	91		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2237298

Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1663118-2								
TPH (C10-C36)	72		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	74				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01
Client ID: HA22-TP2_4.0-8.0
Sample Location: BOSTON, MA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/16/22 15:21
Analyst: MEO
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 02:12
Cleanup Method: EPA 3665A
Cleanup Date: 07/16/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/16/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.6	--	1	A
Aroclor 1221	ND		ug/kg	34.6	--	1	A
Aroclor 1232	ND		ug/kg	34.6	--	1	A
Aroclor 1242	ND		ug/kg	34.6	--	1	A
Aroclor 1248	ND		ug/kg	34.6	--	1	A
Aroclor 1254	ND		ug/kg	34.6	--	1	A
Aroclor 1260	ND		ug/kg	34.6	--	1	A
Aroclor 1262	ND		ug/kg	34.6	--	1	A
Aroclor 1268	ND		ug/kg	34.6	--	1	A
PCBs, Total	ND		ug/kg	34.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	66		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/15/22 15:15
Analyst: ER

Extraction Method: EPA 3546
Extraction Date: 07/14/22 17:57
Cleanup Method: EPA 3665A
Cleanup Date: 07/15/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/15/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1663066-1						
Aroclor 1016	ND		ug/kg	31.7	--	A
Aroclor 1221	ND		ug/kg	31.7	--	A
Aroclor 1232	ND		ug/kg	31.7	--	A
Aroclor 1242	ND		ug/kg	31.7	--	A
Aroclor 1248	ND		ug/kg	31.7	--	A
Aroclor 1254	ND		ug/kg	31.7	--	A
Aroclor 1260	ND		ug/kg	31.7	--	A
Aroclor 1262	ND		ug/kg	31.7	--	A
Aroclor 1268	ND		ug/kg	31.7	--	A
PCBs, Total	ND		ug/kg	31.7	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	63		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2237298

Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1663066-2 WG1663066-3									
Aroclor 1016	74		73		40-140	1		30	A
Aroclor 1260	70		70		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		59		30-150	B
Decachlorobiphenyl	75		72		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		60		30-150	A
Decachlorobiphenyl	65		63		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2237298
Project Number: 134206-006
Report Date: 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01
Client ID: HA22-TP2_4.0-8.0
Sample Location: BOSTON, MA
Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.14	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Arsenic, Total	1.88		mg/kg	0.428	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Barium, Total	38.7		mg/kg	0.428	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.214	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Cadmium, Total	0.466		mg/kg	0.428	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Chromium, Total	10.0		mg/kg	0.428	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Lead, Total	55.7		mg/kg	2.14	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.080	--	1	07/16/22 00:45	07/25/22 12:47	EPA 7471B	97,7471B	DMB
Nickel, Total	6.46		mg/kg	1.07	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.14	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.428	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.14	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Vanadium, Total	16.0		mg/kg	0.428	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC
Zinc, Total	121		mg/kg	2.14	--	1	07/16/22 00:07	07/21/22 22:11	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237298

Project Number: 134206-006 **Report Date:** 07/26/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662947-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	07/16/22 00:07	07/21/22 20:02	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662949-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/16/22 00:45	07/25/22 10:36	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662947-2 WG1662947-3 SRM Lot Number: D113-540								
Antimony, Total	113		109		20-250	4		30
Arsenic, Total	94		92		70-130	2		30
Barium, Total	86		81		75-125	6		30
Beryllium, Total	96		86		75-125	11		30
Cadmium, Total	90		85		75-125	6		30
Chromium, Total	88		85		70-130	3		30
Lead, Total	86		85		72-128	1		30
Nickel, Total	87		84		70-130	4		30
Selenium, Total	98		93		66-134	5		30
Silver, Total	92		91		70-131	1		30
Thallium, Total	86		82		70-130	5		30
Vanadium, Total	88		85		74-126	3		30
Zinc, Total	88		87		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662949-2 WG1662949-3 SRM Lot Number: D113-540								
Mercury, Total	92		96		60-140	4		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

SAMPLE RESULTS

Lab ID:	L2237298-01	Date Collected:	07/13/22 13:00
Client ID:	HA22-TP2_4.0-8.0	Date Received:	07/13/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/18/22 14:55	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

SAMPLE RESULTS

Lab ID: L2237298-01
Client ID: HA22-TP2_4.0-8.0
Sample Location: BOSTON, MA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	320		umhos/cm	10	--	1	-	07/14/22 18:58	1,9050A	AS
Solids, Total	90.7		%	0.100	NA	1	-	07/14/22 10:02	121,2540G	RI
pH (H)	8.4		SU	-	NA	1	-	07/14/22 09:37	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/20/22 18:45	07/20/22 21:51	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/20/22 18:45	07/20/22 21:28	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-006
Lab Number: L2237298
Report Date: 07/26/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1665399-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/20/22 18:45	07/20/22 21:21	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1665403-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/20/22 18:45	07/20/22 21:46	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2237298

Report Date: 07/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1662743-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1662745-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1665399-2								
Sulfide, Reactive	104		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1665403-2								
Cyanide, Reactive	80		-		30-125	-		40

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2237298
Report Date: 07/26/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237298-01A	Vial MeOH preserved	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2237298-01B	Vial water preserved	A	NA		3.8	Y	Absent	13-JUL-22 20:45	MCP-8260HLW-21(14)
L2237298-01C	Vial water preserved	A	NA		3.8	Y	Absent	13-JUL-22 20:45	MCP-8260HLW-21(14)
L2237298-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2237298-01E	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2237298-01F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2237298-01G	Glass 250ml/8oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2237298-01H	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237298
Project Number:	134206-006	**Report Date:**	07/26/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2237298

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-006
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do

Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note	Sample Specific Comments	Total Bottles
37298-01	HA22-TP2-4.0-8.0	7/13/2022	1300	SO/F	MJD	4-8	x	x	x	x	x	x	x	x		8

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A✓	A	A	A	A	A	A	A
Preservative	F✓	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/13/2022 15:25	[signature] ARL	7/13 15:25
[signature] ARL	7/13 16:59	[signature]	7/13 16:59

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2237298
Project Name	: MATTHEWS ARENA-NORTHEASTERN Univ	**Project Number**	: 134206-006
Lab Sample ID	: WG1665269-5	**Lab File ID**	: V29220719N05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 07/19/22 20:33

Client Sample No.	Lab Sample ID	Analysis Date
WG1665269-3LCS	WG1665269-3	07/19/22 19:29
WG1665269-4LCSD	WG1665269-4	07/19/22 19:50
HA22-TP2_4.0-8.0	L2237298-01	07/20/22 00:45

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2237298		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA129	Calibration Date	: 07/19/22 19:08		
Lab File ID	: V29220719N01	Init. Calib. Date(s)	: 07/12/22	07/12/22	
Sample No	: WG1665269-2	Init. Calib. Times	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	100	0
Dichlorodifluoromethane	0.285	0.238	-	16.5	20	79	0
Chloromethane	0.328	0.286	-	12.8	20	88	0
Vinyl chloride	0.302	0.28	-	7.3	20	90	0
Bromomethane	0.165	0.186	-	-12.7	20	114	0
Chloroethane	0.183	0.179	-	2.2	20	96	0
Trichlorofluoromethane	0.408	0.38	-	6.9	20	87	0
Ethyl ether	0.15	0.149	-	0.7	20	100	0
1,1-Dichloroethene	0.248	0.23	-	7.3	20	91	0
Carbon disulfide	0.739	0.689	-	6.8	20	91	0
Freon-113	0.257	0.237	-	7.8	20	87	0
Acrolein	0.045	0.04	-	11.1	20	87	0
Methylene chloride	40	38.472	-	3.8	20	94	0
Acetone	40	46.849	-	-17.1	20	109	0
trans-1,2-Dichloroethene	0.292	0.269	-	7.9	20	91	0
Methyl acetate	0.195	0.171	-	12.3	20	90	0
Methyl tert-butyl ether	0.792	0.747	-	5.7	20	93	0
tert-Butyl alcohol	0.04	0.034	-	15	20	88	0
Diisopropyl ether	0.908	0.911	-	-0.3	20	95	0
1,1-Dichloroethane	0.524	0.487	-	7.1	20	92	0
Halothane	0.227	0.205	-	9.7	20	88	0
Acrylonitrile	0.101	0.091	-	9.9	20	97	0
Ethyl tert-butyl ether	0.922	0.905	-	1.8	20	93	0
Vinyl acetate	0.669	0.632	-	5.5	20	89	0
cis-1,2-Dichloroethene	0.331	0.305	-	7.9	20	91	0
2,2-Dichloropropane	0.447	0.41	-	8.3	20	90	0
Bromochloromethane	0.163	0.148	-	9.2	20	89	0
Cyclohexane	0.479	0.453	-	5.4	20	89	0
Chloroform	0.54	0.505	-	6.5	20	92	0
Ethyl acetate	0.295	0.257	-	12.9	20	88	0
Carbon tetrachloride	0.414	0.361	-	12.8	20	83	0
Tetrahydrofuran	0.116	0.096	-	17.2	20	91	0
Dibromofluoromethane	0.28	0.273	-	2.5	20	99	0
1,1,1-Trichloroethane	0.444	0.408	-	8.1	20	88	0
2-Butanone	40	32.983	-	17.5	20	86	0
1,1-Dichloropropene	0.367	0.356	-	3	20	91	0
Benzene	1.158	1.096	-	5.4	20	92	0
tert-Amyl methyl ether	0.833	0.787	-	5.5	20	90	0
1,2-Dichloroethane-d4	0.302	0.305	-	-1	20	103	0
1,2-Dichloroethane	0.413	0.392	-	5.1	20	92	0
Methyl cyclohexane	0.491	0.466	-	5.1	20	89	0
Trichloroethene	0.303	0.287	-	5.3	20	91	0
Dibromomethane	0.194	0.176	-	9.3	20	89	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2237298		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA129	Calibration Date	: 07/19/22 19:08		
Lab File ID	: V29220719N01	Init. Calib. Date(s)	: 07/12/22	07/12/22	
Sample No	: WG1665269-2	Init. Calib. Times	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.31	0.299	-	3.5	20	94	0
2-Chloroethyl vinyl ether	0.201	0.194	-	3.5	20	91	0
Bromodichloromethane	0.422	0.39	-	7.6	20	89	0
1,4-Dioxane	0.00333	0.00331*	-	0.6	20	93	0
cis-1,3-Dichloropropene	0.494	0.466	-	5.7	20	91	0
Chlorobenzene-d5	1	1	-	0	20	103	0
Toluene-d8	1.282	1.264	-	1.4	20	101	0
Toluene	0.949	0.846	-	10.9	20	92	0
4-Methyl-2-pentanone	0.143	0.13	-	9.1	20	90	0
Tetrachloroethene	0.383	0.341	-	11	20	87	0
trans-1,3-Dichloropropene	0.554	0.507	-	8.5	20	89	0
Ethyl methacrylate	0.487	0.445	-	8.6	20	89	0
1,1,2-Trichloroethane	0.269	0.25	-	7.1	20	90	0
Chlorodibromomethane	0.391	0.35	-	10.5	20	86	0
1,3-Dichloropropane	0.558	0.516	-	7.5	20	92	0
1,2-Dibromoethane	0.33	0.305	-	7.6	20	89	0
2-Hexanone	0.263	0.238	-	9.5	20	92	0
Chlorobenzene	1.05	0.965	-	8.1	20	93	0
Ethylbenzene	1.733	1.597	-	7.8	20	92	0
1,1,1,2-Tetrachloroethane	0.379	0.348	-	8.2	20	89	0
p/m Xylene	0.679	0.621	-	8.5	20	91	0
o Xylene	0.671	0.625	-	6.9	20	94	0
Styrene	1.113	1.031	-	7.4	20	92	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	104	0
Bromoform	0.479	0.391	-	18.4	20	81	0
Isopropylbenzene	3.261	2.993	-	8.2	20	91	0
4-Bromofluorobenzene	0.934	0.939	-	-0.5	20	106	0
Bromobenzene	0.845	0.772	-	8.6	20	92	0
n-Propylbenzene	3.816	3.575	-	6.3	20	93	0
1,4-Dichlorobutane	1.17	1.046	-	10.6	20	93	0
1,1,2,2-Tetrachloroethane	0.818	0.73	-	10.8	20	89	0
4-Ethyltoluene	3.238	3.064	-	5.4	20	93	0
2-Chlorotoluene	2.302	2.523	-	-9.6	20	107	0
1,3,5-Trimethylbenzene	2.812	2.632	-	6.4	20	94	0
1,2,3-Trichloropropane	0.67	0.6	-	10.4	20	90	0
trans-1,4-Dichloro-2-buten	0.273	0.243	-	11	20	88	0
4-Chlorotoluene	2.423	2.26	-	6.7	20	94	0
tert-Butylbenzene	2.405	2.228	-	7.4	20	93	0
1,2,4-Trimethylbenzene	2.765	2.633	-	4.8	20	95	0
sec-Butylbenzene	3.507	3.269	-	6.8	20	92	0
p-Isopropyltoluene	3.042	2.875	-	5.5	20	93	0
1,3-Dichlorobenzene	1.637	1.506	-	8	20	93	0
1,4-Dichlorobenzene	40	36.069	-	9.8	20	92	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2237298		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	**Project Number**	: 134206-006		
Instrument ID	: VOA129	**Calibration Date**	: 07/19/22 19:08		
Lab File ID	: V29220719N01	**Init. Calib. Date(s)**	: 07/12/22	07/12/22	
Sample No	: WG1665269-2	**Init. Calib. Times**	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.856	1.752	-	5.6	20	95	0
n-Butylbenzene	2.682	2.566	-	4.3	20	94	0
1,2-Dichlorobenzene	1.573	1.443	-	8.3	20	93	0
1,2,4,5-Tetramethylbenzene	2.886	2.843	-	1.5	20	97	0
1,2-Dibromo-3-chloropropan	0.152	0.123	-	19.1	20	83	0
1,3,5-Trichlorobenzene	1.196	1.103	-	7.8	20	93	0
Hexachlorobutadiene	0.559	0.511	-	8.6	20	92	0
1,2,4-Trichlorobenzene	1.111	1.037	-	6.7	20	95	0
Naphthalene	2.757	2.542	-	7.8	20	92	0
1,2,3-Trichlorobenzene	1.055	0.97	-	8.1	20	95	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2237738
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-007
Report Date:	07/27/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237738-01	HA22-B4_10.0-14.0	SOIL	BOSTON, MA	07/14/22 09:50	07/14/22
L2237738-02	HA22-B4_21-26.0	SOIL	BOSTON, MA	07/14/22 11:45	07/14/22
L2237738-03	HA22-B4_29.0-31.0	SOIL	BOSTON, MA	07/14/22 13:00	07/14/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2237738-02 and -03: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0024)

Average Response Factor: 1,4-dioxane

L2237738-02 and -03: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

WG1663535-1, WG1663535-2, and WG1663535-3: The initial calibration utilized a quadratic fit for 2,4,6-Tribromophenol.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 07/27/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2237738

Report Date: 07/27/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02
Client ID: HA22-B4_21-26.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/21/22 11:07
Analyst: MKS
Percent Solids: 60%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	10	--	1
1,1-Dichloroethane	ND		ug/kg	2.1	--	1
Chloroform	ND		ug/kg	3.1	--	1
Carbon tetrachloride	ND		ug/kg	2.1	--	1
1,2-Dichloropropane	ND		ug/kg	2.1	--	1
Dibromochloromethane	ND		ug/kg	2.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	2.1	--	1
Tetrachloroethene	ND		ug/kg	1.0	--	1
Chlorobenzene	ND		ug/kg	1.0	--	1
Trichlorofluoromethane	ND		ug/kg	8.4	--	1
1,2-Dichloroethane	ND		ug/kg	2.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	1.0	--	1
Bromodichloromethane	ND		ug/kg	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/kg	2.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
1,3-Dichloropropene, Total	ND		ug/kg	1.0	--	1
1,1-Dichloropropene	ND		ug/kg	1.0	--	1
Bromoform	ND		ug/kg	8.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	--	1
Benzene	ND		ug/kg	1.0	--	1
Toluene	ND		ug/kg	2.1	--	1
Ethylbenzene	ND		ug/kg	2.1	--	1
Chloromethane	ND		ug/kg	8.4	--	1
Bromomethane	ND		ug/kg	4.2	--	1
Vinyl chloride	ND		ug/kg	2.1	--	1
Chloroethane	ND		ug/kg	4.2	--	1
1,1-Dichloroethene	ND		ug/kg	2.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	3.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02 Date Collected: 07/14/22 11:45

Client ID: HA22-B4_21-26.0 Date Received: 07/14/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichlorobenzene	ND		ug/kg	4.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	4.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	4.2	--	1
Methyl tert butyl ether	ND		ug/kg	4.2	--	1
p/m-Xylene	ND		ug/kg	4.2	--	1
o-Xylene	ND		ug/kg	2.1	--	1
Xylenes, Total	ND		ug/kg	2.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	2.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	2.1	--	1
Dibromomethane	ND		ug/kg	4.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	4.2	--	1
Styrene	ND		ug/kg	2.1	--	1
Dichlorodifluoromethane	ND		ug/kg	21	--	1
Acetone	54		ug/kg	52	--	1
Carbon disulfide	ND		ug/kg	21	--	1
Methyl ethyl ketone	ND		ug/kg	21	--	1
Methyl isobutyl ketone	ND		ug/kg	21	--	1
2-Hexanone	ND		ug/kg	21	--	1
Bromochloromethane	ND		ug/kg	4.2	--	1
Tetrahydrofuran	ND		ug/kg	8.4	--	1
2,2-Dichloropropane	ND		ug/kg	4.2	--	1
1,2-Dibromoethane	ND		ug/kg	2.1	--	1
1,3-Dichloropropane	ND		ug/kg	4.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	--	1
Bromobenzene	ND		ug/kg	4.2	--	1
n-Butylbenzene	ND		ug/kg	2.1	--	1
sec-Butylbenzene	ND		ug/kg	2.1	--	1
tert-Butylbenzene	ND		ug/kg	4.2	--	1
o-Chlorotoluene	ND		ug/kg	4.2	--	1
p-Chlorotoluene	ND		ug/kg	4.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.3	--	1
Hexachlorobutadiene	ND		ug/kg	8.4	--	1
Isopropylbenzene	ND		ug/kg	2.1	--	1
p-Isopropyltoluene	10		ug/kg	2.1	--	1
Naphthalene	ND		ug/kg	8.4	--	1
n-Propylbenzene	ND		ug/kg	2.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02 Date Collected: 07/14/22 11:45

Client ID: HA22-B4_21-26.0 Date Received: 07/14/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	4.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.2	--	1
Diethyl ether	ND		ug/kg	4.2	--	1
Diisopropyl Ether	ND		ug/kg	4.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.2	--	1
1,4-Dioxane	ND		ug/kg	170	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	96		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03
Client ID: HA22-B4_29.0-31.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/21/22 11:32
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.9	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.8	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	1.2	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.59	--	1
Chlorobenzene	ND		ug/kg	0.59	--	1
Trichlorofluoromethane	ND		ug/kg	4.7	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.59	--	1
Bromodichloromethane	ND		ug/kg	0.59	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.59	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.59	--	1
1,1-Dichloropropene	ND		ug/kg	0.59	--	1
Bromoform	ND		ug/kg	4.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.59	--	1
Benzene	ND		ug/kg	0.59	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	4.7	--	1
Bromomethane	ND		ug/kg	2.4	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.4	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03 Date Collected: 07/14/22 13:00

Client ID: HA22-B4_29.0-31.0 Date Received: 07/14/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.59	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	--	1
Methyl tert butyl ether	ND		ug/kg	2.4	--	1
p/m-Xylene	ND		ug/kg	2.4	--	1
o-Xylene	ND		ug/kg	1.2	--	1
Xylenes, Total	ND		ug/kg	1.2	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	2.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.4	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	ND		ug/kg	29	--	1
Carbon disulfide	ND		ug/kg	12	--	1
Methyl ethyl ketone	ND		ug/kg	12	--	1
Methyl isobutyl ketone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	2.4	--	1
Tetrahydrofuran	ND		ug/kg	4.7	--	1
2,2-Dichloropropane	ND		ug/kg	2.4	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.59	--	1
Bromobenzene	ND		ug/kg	2.4	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.4	--	1
o-Chlorotoluene	ND		ug/kg	2.4	--	1
p-Chlorotoluene	ND		ug/kg	2.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.5	--	1
Hexachlorobutadiene	ND		ug/kg	4.7	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	4.7	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03 Date Collected: 07/14/22 13:00

Client ID: HA22-B4_29.0-31.0 Date Received: 07/14/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	--	1
Diethyl ether	ND		ug/kg	2.4	--	1
Diisopropyl Ether	ND		ug/kg	2.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.4	--	1
1,4-Dioxane	ND		ug/kg	94	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	95		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/21/22 08:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1665733-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/21/22 08:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1665733-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/21/22 08:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1665733-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1665733-3 WG1665733-4								
Methylene chloride	97		94		70-130	3		20
1,1-Dichloroethane	95		92		70-130	3		20
Chloroform	95		94		70-130	1		20
Carbon tetrachloride	97		93		70-130	4		20
1,2-Dichloropropane	96		93		70-130	3		20
Dibromochloromethane	92		91		70-130	1		20
1,1,2-Trichloroethane	94		93		70-130	1		20
Tetrachloroethene	97		93		70-130	4		20
Chlorobenzene	93		90		70-130	3		20
Trichlorofluoromethane	106		109		70-130	3		20
1,2-Dichloroethane	98		95		70-130	3		20
1,1,1-Trichloroethane	98		94		70-130	4		20
Bromodichloromethane	94		92		70-130	2		20
trans-1,3-Dichloropropene	92		89		70-130	3		20
cis-1,3-Dichloropropene	93		91		70-130	2		20
1,1-Dichloropropene	104		99		70-130	5		20
Bromoform	84		82		70-130	2		20
1,1,2,2-Tetrachloroethane	84		87		70-130	4		20
Benzene	95		92		70-130	3		20
Toluene	90		87		70-130	3		20
Ethylbenzene	96		92		70-130	4		20
Chloromethane	91		90		70-130	1		20
Bromomethane	110		114		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1665733-3 WG1665733-4								
Vinyl chloride	99		97		70-130	2		20
Chloroethane	100		108		70-130	8		20
1,1-Dichloroethene	105		100		70-130	5		20
trans-1,2-Dichloroethene	92		92		70-130	0		20
Trichloroethene	106		96		70-130	10		20
1,2-Dichlorobenzene	92		88		70-130	4		20
1,3-Dichlorobenzene	92		89		70-130	3		20
1,4-Dichlorobenzene	91		87		70-130	4		20
Methyl tert butyl ether	91		90		70-130	1		20
p/m-Xylene	95		91		70-130	4		20
o-Xylene	94		91		70-130	3		20
cis-1,2-Dichloroethene	91		88		70-130	3		20
Dibromomethane	92		90		70-130	2		20
1,2,3-Trichloropropane	89		87		70-130	2		20
Styrene	94		91		70-130	3		20
Dichlorodifluoromethane	94		91		70-130	3		20
Acetone	108		111		70-130	3		20
Carbon disulfide	105		104		70-130	1		20
Methyl ethyl ketone	82		78		70-130	5		20
Methyl isobutyl ketone	89		87		70-130	2		20
2-Hexanone	87		89		70-130	2		20
Bromochloromethane	91		88		70-130	3		20
Tetrahydrofuran	83		82		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1665733-3 WG1665733-4								
2,2-Dichloropropane	94		89		70-130	5		20
1,2-Dibromoethane	94		91		70-130	3		20
1,3-Dichloropropane	94		92		70-130	2		20
1,1,1,2-Tetrachloroethane	94		90		70-130	4		20
Bromobenzene	89		85		70-130	5		20
n-Butylbenzene	102		97		70-130	5		20
sec-Butylbenzene	99		94		70-130	5		20
tert-Butylbenzene	95		91		70-130	4		20
o-Chlorotoluene	96		90		70-130	6		20
p-Chlorotoluene	95		90		70-130	5		20
1,2-Dibromo-3-chloropropane	80		76		70-130	5		20
Hexachlorobutadiene	96		92		70-130	4		20
Isopropylbenzene	95		91		70-130	4		20
p-Isopropyltoluene	98		94		70-130	4		20
Naphthalene	90		89		70-130	1		20
n-Propylbenzene	98		92		70-130	6		20
1,2,3-Trichlorobenzene	91		88		70-130	3		20
1,2,4-Trichlorobenzene	92		91		70-130	1		20
1,3,5-Trimethylbenzene	96		91		70-130	5		20
1,2,4-Trimethylbenzene	95		92		70-130	3		20
Diethyl ether	102		99		70-130	3		20
Diisopropyl Ether	97		94		70-130	3		20
Ethyl-Tert-Butyl-Ether	94		92		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2237738

Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1665733-3 WG1665733-4								
Tertiary-Amyl Methyl Ether	90		89		70-130	1		20
1,4-Dioxane	97		98		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02
Client ID: HA22-B4_21-26.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/20/22 01:28
Analyst: EK
Percent Solids: 60%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 00:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	220	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	270	--	1
Hexachlorobenzene	ND		ug/kg	110	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	110	--	1
2-Chloronaphthalene	ND		ug/kg	270	--	1
1,2-Dichlorobenzene	ND		ug/kg	270	--	1
1,3-Dichlorobenzene	ND		ug/kg	270	--	1
1,4-Dichlorobenzene	ND		ug/kg	110	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	270	--	1
2,4-Dinitrotoluene	ND		ug/kg	110	--	1
2,6-Dinitrotoluene	ND		ug/kg	270	--	1
Azobenzene	ND		ug/kg	270	--	1
Fluoranthene	ND		ug/kg	160	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	270	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	110	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	300	--	1
Hexachlorobutadiene	ND		ug/kg	270	--	1
Hexachloroethane	ND		ug/kg	110	--	1
Isophorone	ND		ug/kg	250	--	1
Naphthalene	ND		ug/kg	270	--	1
Nitrobenzene	ND		ug/kg	250	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	270	--	1
Butyl benzyl phthalate	ND		ug/kg	270	--	1
Di-n-butylphthalate	ND		ug/kg	270	--	1
Di-n-octylphthalate	ND		ug/kg	270	--	1
Diethyl phthalate	ND		ug/kg	270	--	1
Dimethyl phthalate	ND		ug/kg	110	--	1
Benzo(a)anthracene	ND		ug/kg	160	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02 Date Collected: 07/14/22 11:45

Client ID: HA22-B4_21-26.0 Date Received: 07/14/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	220	--	1
Benzo(b)fluoranthene	ND		ug/kg	160	--	1
Benzo(k)fluoranthene	ND		ug/kg	160	--	1
Chrysene	ND		ug/kg	160	--	1
Acenaphthylene	ND		ug/kg	220	--	1
Anthracene	ND		ug/kg	160	--	1
Benzo(ghi)perylene	ND		ug/kg	220	--	1
Fluorene	ND		ug/kg	270	--	1
Phenanthrene	ND		ug/kg	160	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	220	--	1
Pyrene	ND		ug/kg	160	--	1
Aniline	ND		ug/kg	330	--	1
4-Chloroaniline	ND		ug/kg	270	--	1
Dibenzofuran	ND		ug/kg	270	--	1
2-Methylnaphthalene	ND		ug/kg	110	--	1
Acetophenone	ND		ug/kg	270	--	1
2,4,6-Trichlorophenol	ND		ug/kg	110	--	1
2-Chlorophenol	ND		ug/kg	110	--	1
2,4-Dichlorophenol	ND		ug/kg	110	--	1
2,4-Dimethylphenol	ND		ug/kg	110	--	1
2-Nitrophenol	ND		ug/kg	590	--	1
4-Nitrophenol	ND		ug/kg	380	--	1
2,4-Dinitrophenol	ND		ug/kg	1300	--	1
Pentachlorophenol	ND		ug/kg	550	--	1
Phenol	ND		ug/kg	270	--	1
2-Methylphenol	ND		ug/kg	270	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	390	--	1
2,4,5-Trichlorophenol	ND		ug/kg	270	--	1
Pyridine	ND		ug/kg	300	--	1
Biphenyl	ND		ug/kg	55	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID:	L2237738-02	Date Collected:	07/14/22 11:45
Client ID:	HA22-B4_21-26.0	Date Received:	07/14/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	74		30-130
Phenol-d6	73		30-130
Nitrobenzene-d5	69		30-130
2-Fluorobiphenyl	71		30-130
2,4,6-Tribromophenol	67		30-130
4-Terphenyl-d14	67		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03
Client ID: HA22-B4_29.0-31.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/20/22 01:05
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 00:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	84	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	84	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	84	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	84	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	84	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	84	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	84	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03 Date Collected: 07/14/22 13:00

Client ID: HA22-B4_29.0-31.0 Date Received: 07/14/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	84	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	84	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	84	--	1
2-Chlorophenol	ND		ug/kg	84	--	1
2,4-Dichlorophenol	ND		ug/kg	84	--	1
2,4-Dimethylphenol	ND		ug/kg	84	--	1
2-Nitrophenol	ND		ug/kg	430	--	1
4-Nitrophenol	ND		ug/kg	280	--	1
2,4-Dinitrophenol	ND		ug/kg	960	--	1
Pentachlorophenol	ND		ug/kg	400	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	220	--	1
Biphenyl	ND		ug/kg	40	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03 Date Collected: 07/14/22 13:00

Client ID: HA22-B4_29.0-31.0 Date Received: 07/14/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	84		30-130
Phenol-d6	90		30-130
Nitrobenzene-d5	91		30-130
2-Fluorobiphenyl	78		30-130
2,4,6-Tribromophenol	68		30-130
4-Terphenyl-d14	68		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/19/22 01:34
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/15/22 18:51

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG1663535-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	170	--
Hexachlorobenzene	ND		ug/kg	70	--
Bis(2-chloroethyl)ether	ND		ug/kg	70	--
2-Chloronaphthalene	ND		ug/kg	170	--
1,2-Dichlorobenzene	ND		ug/kg	170	--
1,3-Dichlorobenzene	ND		ug/kg	170	--
1,4-Dichlorobenzene	ND		ug/kg	70	--
3,3'-Dichlorobenzidine	ND		ug/kg	170	--
2,4-Dinitrotoluene	ND		ug/kg	70	--
2,6-Dinitrotoluene	ND		ug/kg	170	--
Azobenzene	ND		ug/kg	170	--
Fluoranthene	ND		ug/kg	100	--
4-Bromophenyl phenyl ether	ND		ug/kg	170	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	70	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	170	--
Hexachloroethane	ND		ug/kg	70	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	170	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--
Butyl benzyl phthalate	ND		ug/kg	170	--
Di-n-butylphthalate	ND		ug/kg	170	--
Di-n-octylphthalate	ND		ug/kg	170	--
Diethyl phthalate	ND		ug/kg	170	--
Dimethyl phthalate	ND		ug/kg	70	--
Benzo(a)anthracene	ND		ug/kg	100	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/19/22 01:34
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/15/22 18:51

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG1663535-1					
Benzo(b)fluoranthene	ND		ug/kg	100	--
Benzo(k)fluoranthene	ND		ug/kg	100	--
Chrysene	ND		ug/kg	100	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	100	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	170	--
Phenanthrene	ND		ug/kg	100	--
Dibenzo(a,h)anthracene	ND		ug/kg	70	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	100	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	170	--
Dibenzofuran	ND		ug/kg	170	--
2-Methylnaphthalene	ND		ug/kg	70	--
Acetophenone	ND		ug/kg	170	--
2,4,6-Trichlorophenol	ND		ug/kg	70	--
2-Chlorophenol	ND		ug/kg	70	--
2,4-Dichlorophenol	ND		ug/kg	70	--
2,4-Dimethylphenol	ND		ug/kg	70	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	800	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	170	--
2-Methylphenol	ND		ug/kg	170	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	170	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/19/22 01:34
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 07/15/22 18:51

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG1663535-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	79		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	73		30-130
2-Fluorobiphenyl	77		30-130
2,4,6-Tribromophenol	91		30-130
4-Terphenyl-d14	83		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG1663535-2 WG1663535-3								
Acenaphthene	61		63		40-140	3		30
1,2,4-Trichlorobenzene	69		72		40-140	4		30
Hexachlorobenzene	80		83		40-140	4		30
Bis(2-chloroethyl)ether	66		68		40-140	3		30
2-Chloronaphthalene	69		72		40-140	4		30
1,2-Dichlorobenzene	64		67		40-140	5		30
1,3-Dichlorobenzene	61		65		40-140	6		30
1,4-Dichlorobenzene	62		66		40-140	6		30
3,3'-Dichlorobenzidine	64		66		40-140	3		30
2,4-Dinitrotoluene	72		75		40-140	4		30
2,6-Dinitrotoluene	75		79		40-140	5		30
Azobenzene	75		77		40-140	3		30
Fluoranthene	68		68		40-140	0		30
4-Bromophenyl phenyl ether	73		75		40-140	3		30
Bis(2-chloroisopropyl)ether	66		67		40-140	2		30
Bis(2-chloroethoxy)methane	69		72		40-140	4		30
Hexachlorobutadiene	68		69		40-140	1		30
Hexachloroethane	61		64		40-140	5		30
Isophorone	68		72		40-140	6		30
Naphthalene	65		69		40-140	6		30
Nitrobenzene	71		76		40-140	7		30
Bis(2-ethylhexyl)phthalate	61		62		40-140	2		30
Butyl benzyl phthalate	68		68		40-140	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG1663535-2 WG1663535-3								
Di-n-butylphthalate	71		72		40-140	1		30
Di-n-octylphthalate	61		62		40-140	2		30
Diethyl phthalate	66		68		40-140	3		30
Dimethyl phthalate	73		74		40-140	1		30
Benzo(a)anthracene	68		70		40-140	3		30
Benzo(a)pyrene	73		75		40-140	3		30
Benzo(b)fluoranthene	74		74		40-140	0		30
Benzo(k)fluoranthene	66		68		40-140	3		30
Chrysene	65		67		40-140	3		30
Acenaphthylene	73		76		40-140	4		30
Anthracene	64		66		40-140	3		30
Benzo(ghi)perylene	72		74		40-140	3		30
Fluorene	64		67		40-140	5		30
Phenanthrene	62		63		40-140	2		30
Dibenzo(a,h)anthracene	75		78		40-140	4		30
Indeno(1,2,3-cd)pyrene	81		85		40-140	5		30
Pyrene	67		68		40-140	1		30
Aniline	56		60		40-140	7		30
4-Chloroaniline	54		70		40-140	26		30
Dibenzofuran	65		68		40-140	5		30
2-Methylnaphthalene	67		70		40-140	4		30
Acetophenone	69		72		40-140	4		30
2,4,6-Trichlorophenol	80		84		30-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2237738

Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG1663535-2 WG1663535-3								
2-Chlorophenol	71		75		30-130	5		30
2,4-Dichlorophenol	76		79		30-130	4		30
2,4-Dimethylphenol	74		76		30-130	3		30
2-Nitrophenol	72		72		30-130	0		30
4-Nitrophenol	69		70		30-130	1		30
2,4-Dinitrophenol	54		52		30-130	4		30
Pentachlorophenol	69		70		30-130	1		30
Phenol	73		77		30-130	5		30
2-Methylphenol	74		80		30-130	8		30
3-Methylphenol/4-Methylphenol	79		85		30-130	7		30
2,4,5-Trichlorophenol	83		84		30-130	1		30
Pyridine	54		59		30-130	9		30
Biphenyl	67		69		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	72		77		30-130
Phenol-d6	76		81		30-130
Nitrobenzene-d5	67		71		30-130
2-Fluorobiphenyl	69		72		30-130
2,4,6-Tribromophenol	86		91		30-130
4-Terphenyl-d14	70		71		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2237738
Project Number: 134206-007
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02
Client ID: HA22-B4_21-26.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/17/22 13:51
Analyst: SC
Percent Solids: 60%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 06:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	53200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	83		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03
Client ID: HA22-B4_29.0-31.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/17/22 13:26
Analyst: SC
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 06:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	64700		ug/kg	40200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	70		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/17/22 12:11
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 07/16/22 06:07

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 02-03 Batch: WG1663607-1					
TPH (C10-C36)	ND		ug/kg	32200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	78		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2237738

Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 02-03 Batch: WG1663607-2								
TPH (C10-C36)	82		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	81				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02
Client ID: HA22-B4_21-26.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/17/22 14:00
Analyst: MEO
Percent Solids: 60%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 07/17/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/17/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	53.8	--	1	A
Aroclor 1221	ND		ug/kg	53.8	--	1	A
Aroclor 1232	ND		ug/kg	53.8	--	1	A
Aroclor 1242	ND		ug/kg	53.8	--	1	A
Aroclor 1248	ND		ug/kg	53.8	--	1	A
Aroclor 1254	ND		ug/kg	53.8	--	1	A
Aroclor 1260	ND		ug/kg	53.8	--	1	A
Aroclor 1262	ND		ug/kg	53.8	--	1	A
Aroclor 1268	ND		ug/kg	53.8	--	1	A
PCBs, Total	ND		ug/kg	53.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	40		30-150	B
Decachlorobiphenyl	59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	41		30-150	A
Decachlorobiphenyl	47		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03
Client ID: HA22-B4_29.0-31.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/17/22 14:08
Analyst: MEO
Percent Solids: 82%

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/16/22 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 07/17/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/17/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.2	--	1	A
Aroclor 1221	ND		ug/kg	39.2	--	1	A
Aroclor 1232	ND		ug/kg	39.2	--	1	A
Aroclor 1242	ND		ug/kg	39.2	--	1	A
Aroclor 1248	ND		ug/kg	39.2	--	1	A
Aroclor 1254	ND		ug/kg	39.2	--	1	A
Aroclor 1260	ND		ug/kg	39.2	--	1	A
Aroclor 1262	ND		ug/kg	39.2	--	1	A
Aroclor 1268	ND		ug/kg	39.2	--	1	A
PCBs, Total	ND		ug/kg	39.2	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	B
Decachlorobiphenyl	56		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	47		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/17/22 12:23
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 07/16/22 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 07/17/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/17/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02-03 Batch: WG1663579-1						
Aroclor 1016	ND		ug/kg	32.4	--	A
Aroclor 1221	ND		ug/kg	32.4	--	A
Aroclor 1232	ND		ug/kg	32.4	--	A
Aroclor 1242	ND		ug/kg	32.4	--	A
Aroclor 1248	ND		ug/kg	32.4	--	A
Aroclor 1254	ND		ug/kg	32.4	--	A
Aroclor 1260	ND		ug/kg	32.4	--	A
Aroclor 1262	ND		ug/kg	32.4	--	A
Aroclor 1268	ND		ug/kg	32.4	--	A
PCBs, Total	ND		ug/kg	32.4	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	84		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	76		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2237738

Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02-03 Batch: WG1663579-2 WG1663579-3									
Aroclor 1016	78		69		40-140	12		30	A
Aroclor 1260	70		64		40-140	9		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		63		30-150	B
Decachlorobiphenyl	81		76		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		64		30-150	A
Decachlorobiphenyl	69		65		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2237738
Project Number: 134206-007
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02
Client ID: HA22-B4_21-26.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 60%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	3.28	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Arsenic, Total	5.52		mg/kg	0.655	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Barium, Total	34.8		mg/kg	0.655	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Beryllium, Total	0.537		mg/kg	0.328	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Cadmium, Total	0.832		mg/kg	0.655	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Chromium, Total	25.3		mg/kg	0.655	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Lead, Total	5.77		mg/kg	3.28	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.120	--	1	07/19/22 22:39	07/20/22 10:31	EPA 7471B	97,7471B	AW
Nickel, Total	14.5		mg/kg	1.64	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	3.28	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.655	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	3.28	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Vanadium, Total	31.5		mg/kg	0.655	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC
Zinc, Total	35.0		mg/kg	3.28	--	1	07/19/22 21:33	07/23/22 00:54	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2237738
Project Number: 134206-007
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03
Client ID: HA22-B4_29.0-31.0
Sample Location: BOSTON, MA
Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.38	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Arsenic, Total	7.88		mg/kg	0.476	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Barium, Total	56.2		mg/kg	0.476	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Beryllium, Total	0.562		mg/kg	0.238	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Cadmium, Total	0.877		mg/kg	0.476	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Chromium, Total	27.4		mg/kg	0.476	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Lead, Total	6.14		mg/kg	2.38	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.094	--	1	07/19/22 22:39	07/20/22 10:35	EPA 7471B	97,7471B	AW
Nickel, Total	17.8		mg/kg	1.19	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.38	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.476	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.38	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Vanadium, Total	35.2		mg/kg	0.476	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC
Zinc, Total	44.5		mg/kg	2.38	--	1	07/19/22 21:33	07/23/22 00:58	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2237738

Project Number: 134206-007 **Report Date:** 07/27/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02-03 Batch: WG1664298-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	07/19/22 21:33	07/22/22 22:58	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02-03 Batch: WG1664299-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/19/22 22:39	07/20/22 09:41	97,7471B	AW

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 02-03 Batch: WG1664298-2 WG1664298-3 SRM Lot Number: D113-540								
Antimony, Total	118		116		20-250	2		30
Arsenic, Total	90		91		70-130	1		30
Barium, Total	77		79		75-125	3		30
Beryllium, Total	81		83		75-125	2		30
Cadmium, Total	82		84		75-125	2		30
Chromium, Total	83		84		70-130	1		30
Lead, Total	83		84		72-128	1		30
Nickel, Total	82		84		70-130	2		30
Selenium, Total	94		94		66-134	0		30
Silver, Total	87		88		70-131	1		30
Thallium, Total	81		83		70-130	2		30
Vanadium, Total	83		83		74-126	0		30
Zinc, Total	84		86		70-130	2		30
MCP Total Metals - Mansfield Lab Associated sample(s): 02-03 Batch: WG1664299-2 WG1664299-3 SRM Lot Number: D113-540								
Mercury, Total	100		99		60-140	1		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

SAMPLE RESULTS

Lab ID:	L2237738-02	Date Collected:	07/14/22 11:45
Client ID:	HA22-B4_21-26.0	Date Received:	07/14/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Clay
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/18/22 15:36	1,1030	PA

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

SAMPLE RESULTS

Lab ID:	L2237738-03	Date Collected:	07/14/22 13:00
Client ID:	HA22-B4_29.0-31.0	Date Received:	07/14/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Clay
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/18/22 15:36	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-02
Client ID: HA22-B4_21-26.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1700		umhos/cm	10	--	1	-	07/18/22 12:17	1,9050A	KS
Solids, Total	59.7		%	0.100	NA	1	-	07/15/22 09:16	121,2540G	RI
pH (H)	7.8		SU	-	NA	1	-	07/18/22 08:53	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/21/22 08:55	07/21/22 11:14	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	07/21/22 08:55	07/21/22 10:44	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

SAMPLE RESULTS

Lab ID: L2237738-03
Client ID: HA22-B4_29.0-31.0
Sample Location: BOSTON, MA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	740		umhos/cm	10	--	1	-	07/18/22 12:17	1,9050A	KS
Solids, Total	81.8		%	0.100	NA	1	-	07/15/22 09:16	121,2540G	RI
pH (H)	8.0		SU	-	NA	1	-	07/18/22 08:53	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/21/22 08:55	07/21/22 11:15	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	07/21/22 08:55	07/21/22 10:44	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2237738
Report Date: 07/27/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02-03 Batch: WG1665305-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/21/22 08:55	07/21/22 10:36	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 02-03 Batch: WG1665572-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/21/22 08:55	07/21/22 11:07	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-007

Lab Number: L2237738

Report Date: 07/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02-03 Batch: WG1664053-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02-03 Batch: WG1664068-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02-03 Batch: WG1665305-2								
Sulfide, Reactive	119		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 02-03 Batch: WG1665572-2								
Cyanide, Reactive	71		-		30-125	-		40

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237738-01A	Vial MeOH preserved	A	NA		3.2	Y	Absent		HOLD-8260HLW(14)
L2237738-01B	Vial water preserved	A	NA		3.2	Y	Absent	14-JUL-22 19:59	HOLD-8260HLW(14)
L2237738-01C	Vial water preserved	A	NA		3.2	Y	Absent	14-JUL-22 19:59	HOLD-8260HLW(14)
L2237738-01D	Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		HOLD-METAL(180)
L2237738-01E	Vial Large Septa unpreserved (4oz)	A	NA		3.2	Y	Absent		HOLD-8260HLW(14)
L2237738-01F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		HOLD-WETCHEM()
L2237738-01G	Glass 250ml/8oz unpreserved	A	NA		3.2	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2237738-01H	Glass 500ml/16oz unpreserved	A	NA		3.2	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2237738-02A	Vial MeOH preserved	A	NA		3.2	Y	Absent		MCP-8260HLW-21(14)
L2237738-02B	Vial water preserved	A	NA		3.2	Y	Absent	14-JUL-22 19:59	MCP-8260HLW-21(14)
L2237738-02C	Vial water preserved	A	NA		3.2	Y	Absent	14-JUL-22 19:59	MCP-8260HLW-21(14)
L2237738-02D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2237738-02E	Vial Large Septa unpreserved (4oz)	A	NA		3.2	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2237738-02F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2237738-02G	Glass 250ml/8oz unpreserved	A	NA		3.2	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2237738-02H	Glass 500ml/16oz unpreserved	A	NA		3.2	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-007

Lab Number: L2237738
Report Date: 07/27/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237738-03A	Vial MeOH preserved	A	NA		3.2	Y	Absent		MCP-8260HLW-21(14)
L2237738-03B	Vial water preserved	A	NA		3.2	Y	Absent	14-JUL-22 19:59	MCP-8260HLW-21(14)
L2237738-03C	Vial water preserved	A	NA		3.2	Y	Absent	14-JUL-22 19:59	MCP-8260HLW-21(14)
L2237738-03D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2237738-03E	Vial Large Septa unpreserved (4oz)	A	NA		3.2	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2237738-03F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2237738-03G	Glass 250ml/8oz unpreserved	A	NA		3.2	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2237738-03H	Glass 500ml/16oz unpreserved	A	NA		3.2	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2237738
Project Number:	134206-007	**Report Date:**	07/27/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/14/22

ALPHA Job #: L2237738

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total # Bottles
37738-01	★ HA22-B4_10.0-14.0	7/14/2022	0950	SO/F	MJD	10-14	x	x	x	x	x	x	x	x	★ -HOLD-	8
02	HA22-B4_21-26.0	"	1145	SO/O	MJD	21-26	x	x	x	x	x	x	x	x		8
03	HA22-B4_29.0-31.0	"	1300	SO/C	MJD	29-31	x	x	x	x	x	x	x	x		8

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	A ✓	A	A	A	A	A	A	A
Preservative	F A	A	A	A	A	A	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/14/2022 1533	MFCM [signature]	7/14/22 1533
MFCM	7/14/22 1645	[signature]	7/14/22 1645

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2237738
Project Name	: MATTHEWS ARENA-NORTHEASTERN U	**Project Number**	: 134206-007
Lab Sample ID	: WG1665733-5	**Lab File ID**	: V29220721A05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 07/21/22 08:51

Client Sample No.	Lab Sample ID	Analysis Date
WG1665733-3LCS	WG1665733-3	07/21/22 07:37
WG1665733-4LCSD	WG1665733-4	07/21/22 07:58
HA22-B4_21-26.0	L2237738-02	07/21/22 11:07
HA22-B4_29.0-31.0	L2237738-03	07/21/22 11:32

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2237738		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-007		
Instrument ID	: VOA129	Calibration Date	: 07/21/22 07:16		
Lab File ID	: V29220721A01	Init. Calib. Date(s)	: 07/12/22	07/12/22	
Sample No	: WG1665733-2	Init. Calib. Times	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	88	0
Dichlorodifluoromethane	0.285	0.283	-	0.7	20	82	0
Chloromethane	0.328	0.312	-	4.9	20	84	0
Vinyl chloride	0.302	0.32	-	-6	20	90	0
Bromomethane	0.165	0.216	-	-30.9*	20	116	0
Chloroethane	0.183	0.22	-	-20.2*	20	104	0
Trichlorofluoromethane	0.408	0.492	-	-20.6*	20	98	0
Ethyl ether	0.15	0.153	-	-2	20	90	0
1,1-Dichloroethene	0.248	0.279	-	-12.5	20	97	0
Carbon disulfide	0.739	0.853	-	-15.4	20	99	0
Freon-113	0.257	0.308	-	-19.8	20	100	0
Acrolein	0.045	0.042	-	6.7	20	81	0
Methylene chloride	40	39.255	-	1.9	20	84	0
Acetone	40	41.108	-	-2.8	20	85	0
trans-1,2-Dichloroethene	0.292	0.283	-	3.1	20	84	0
Methyl acetate	0.195	0.159	-	18.5	20	73	0
Methyl tert-butyl ether	0.792	0.675	-	14.8	20	73	0
tert-Butyl alcohol	0.04	0.028	-	30*	20	64	0
Diisopropyl ether	0.908	0.88	-	3.1	20	81	0
1,1-Dichloroethane	0.524	0.513	-	2.1	20	85	0
Halothane	0.227	0.224	-	1.3	20	84	0
Acrylonitrile	0.101	0.081	-	19.8	20	76	0
Ethyl tert-butyl ether	0.922	0.842	-	8.7	20	76	0
Vinyl acetate	0.669	0.586	-	12.4	20	72	0
cis-1,2-Dichloroethene	0.331	0.314	-	5.1	20	82	0
2,2-Dichloropropane	0.447	0.44	-	1.6	20	85	0
Bromochloromethane	0.163	0.149	-	8.6	20	79	-.01
Cyclohexane	0.479	0.525	-	-9.6	20	90	0
Chloroform	0.54	0.527	-	2.4	20	84	0
Ethyl acetate	0.295	0.236	-	20	20	71	0
Carbon tetrachloride	0.414	0.407	-	1.7	20	82	0
Tetrahydrofuran	0.116	0.084	-	27.6*	20	70	0
Dibromofluoromethane	0.28	0.27	-	3.6	20	86	0
1,1,1-Trichloroethane	0.444	0.455	-	-2.5	20	86	0
2-Butanone	40	30.472	-	23.8*	20	70	0
1,1-Dichloropropene	0.367	0.39	-	-6.3	20	87	0
Benzene	1.158	1.144	-	1.2	20	85	0
tert-Amyl methyl ether	0.833	0.714	-	14.3	20	72	0
1,2-Dichloroethane-d4	0.302	0.3	-	0.7	20	89	0
1,2-Dichloroethane	0.413	0.388	-	6.1	20	80	0
Methyl cyclohexane	0.491	0.525	-	-6.9	20	88	0
Trichloroethene	0.303	0.309	-	-2	20	86	0
Dibromomethane	0.194	0.172	-	11.3	20	76	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2237738		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-007		
Instrument ID	: VOA129	Calibration Date	: 07/21/22 07:16		
Lab File ID	: V29220721A01	Init. Calib. Date(s)	: 07/12/22	07/12/22	
Sample No	: WG1665733-2	Init. Calib. Times	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.31	0.3	-	3.2	20	82	0
2-Chloroethyl vinyl ether	0.201	0.175	-	12.9	20	72	0
Bromodichloromethane	0.422	0.387	-	8.3	20	77	0
1,4-Dioxane	0.00333	0.00281*	-	15.6	20	69	0
cis-1,3-Dichloropropene	0.494	0.455	-	7.9	20	78	0
Chlorobenzene-d5	1	1	-	0	20	89	0
Toluene-d8	1.282	1.278	-	0.3	20	88	0
Toluene	0.949	0.898	-	5.4	20	84	0
4-Methyl-2-pentanone	0.143	0.111	-	22.4*	20	66	0
Tetrachloroethene	0.383	0.387	-	-1	20	85	0
trans-1,3-Dichloropropene	0.554	0.492	-	11.2	20	75	0
Ethyl methacrylate	0.487	0.404	-	17	20	70	0
1,1,2-Trichloroethane	0.269	0.243	-	9.7	20	75	0
Chlorodibromomethane	0.391	0.344	-	12	20	73	0
1,3-Dichloropropane	0.558	0.51	-	8.6	20	78	0
1,2-Dibromoethane	0.33	0.291	-	11.8	20	73	0
2-Hexanone	0.263	0.21	-	20.2*	20	70	0
Chlorobenzene	1.05	0.994	-	5.3	20	82	0
Ethylbenzene	1.733	1.709	-	1.4	20	85	0
1,1,1,2-Tetrachloroethane	0.379	0.351	-	7.4	20	77	0
p/m Xylene	0.679	0.67	-	1.3	20	84	0
o Xylene	0.671	0.654	-	2.5	20	84	0
Styrene	1.113	1.065	-	4.3	20	82	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	90	0
Bromoform	0.479	0.376	-	21.5*	20	67	0
Isopropylbenzene	3.261	3.264	-	-0.1	20	86	0
4-Bromofluorobenzene	0.934	0.92	-	1.5	20	89	0
Bromobenzene	0.845	0.777	-	8	20	80	0
n-Propylbenzene	3.816	3.954	-	-3.6	20	89	0
1,4-Dichlorobutane	1.17	1.02	-	12.8	20	78	0
1,1,2,2-Tetrachloroethane	0.818	0.695	-	15	20	73	0
4-Ethyltoluene	3.238	3.31	-	-2.2	20	87	0
2-Chlorotoluene	2.302	2.245	-	2.5	20	82	0
1,3,5-Trimethylbenzene	2.812	2.803	-	0.3	20	86	0
1,2,3-Trichloropropane	0.67	0.566	-	15.5	20	73	0
trans-1,4-Dichloro-2-buten	0.273	0.231	-	15.4	20	72	0
4-Chlorotoluene	2.423	2.404	-	0.8	20	86	0
tert-Butylbenzene	2.405	2.422	-	-0.7	20	87	0
1,2,4-Trimethylbenzene	2.765	2.766	-	-0	20	86	0
sec-Butylbenzene	3.507	3.673	-	-4.7	20	89	0
p-Isopropyltoluene	3.042	3.181	-	-4.6	20	88	0
1,3-Dichlorobenzene	1.637	1.572	-	4	20	83	0
1,4-Dichlorobenzene	40	37.485	-	6.3	20	82	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2237738		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	**Project Number**	: 134206-007		
Instrument ID	: VOA129	**Calibration Date**	: 07/21/22 07:16		
Lab File ID	: V29220721A01	**Init. Calib. Date(s)**	: 07/12/22	07/12/22	
Sample No	: WG1665733-2	**Init. Calib. Times**	: 18:30	21:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.856	1.924	-	-3.7	20	90	0
n-Butylbenzene	2.682	2.918	-	-8.8	20	92	0
1,2-Dichlorobenzene	1.573	1.462	-	7.1	20	81	0
1,2,4,5-Tetramethylbenzene	2.886	2.847	-	1.4	20	84	0
1,2-Dibromo-3-chloropropan	0.152	0.111	-	27*	20	65	0
1,3,5-Trichlorobenzene	1.196	1.166	-	2.5	20	85	0
Hexachlorobutadiene	0.559	0.562	-	-0.5	20	87	0
1,2,4-Trichlorobenzene	1.111	1.067	-	4	20	84	0
Naphthalene	2.757	2.387	-	13.4	20	75	0
1,2,3-Trichlorobenzene	1.055	0.966	-	8.4	20	82	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2238398
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-006
Report Date:	08/01/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2238398-01	HA22-TP1_0.6-4.0	SOIL	BOSTON, MA	07/19/22 09:15	07/19/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2238398-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0013)

Average Response Factor: 1,4-dioxane

L2238398-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 08/01/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2238398

Report Date: 08/01/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1667004-3	Acetone	LCS	163	70-130	01	potential high bias
8260D	Batch QC	WG1667004-3	Hexachlorobutadiene	LCS	139	70-130	01	potential high bias
8260D	Batch QC	WG1667004-4	Dichlorodifluoromethane	LCSD	64	70-130	01	potential low bias
8260D	Batch QC	WG1667004-4	Acetone	LCSD	135	70-130	01	potential high bias
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	Batch QC	WG1665464-2	Aroclor 1016 (A)	LCS	145	40-140	01	potential high bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2238398

Project Number: 134206-006 **Report Date:** 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01
Client ID: HA22-TP1_0.6-4.0
Sample Location: BOSTON, MA

Date Collected: 07/19/22 09:15
Date Received: 07/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/22/22 22:12
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.82	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.82	--	1
1,2-Dichloropropane	ND		ug/kg	0.82	--	1
Dibromochloromethane	ND		ug/kg	0.82	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.82	--	1
Tetrachloroethene	ND		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.82	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.82	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	ND		ug/kg	0.41	--	1
Toluene	1.7		ug/kg	0.82	--	1
Ethylbenzene	ND		ug/kg	0.82	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.82	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.82	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2238398

Project Number: 134206-006 **Report Date:** 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01 Date Collected: 07/19/22 09:15

Client ID: HA22-TP1_0.6-4.0 Date Received: 07/19/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.41	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.82	--	1
Xylenes, Total	ND		ug/kg	0.82	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.82	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.82	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.82	--	1
Dichlorodifluoromethane	ND		ug/kg	8.2	--	1
Acetone	ND		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	8.2	--	1
Methyl ethyl ketone	ND		ug/kg	8.2	--	1
Methyl isobutyl ketone	ND		ug/kg	8.2	--	1
2-Hexanone	ND		ug/kg	8.2	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.82	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.82	--	1
sec-Butylbenzene	ND		ug/kg	0.82	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.82	--	1
p-Isopropyltoluene	ND		ug/kg	0.82	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.82	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2238398

Project Number: 134206-006 **Report Date:** 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01 Date Collected: 07/19/22 09:15

Client ID: HA22-TP1_0.6-4.0 Date Received: 07/19/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	65	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	101		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/22/22 13:17
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1667004-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/22/22 13:17
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1667004-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/22/22 13:17
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1667004-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667004-3 WG1667004-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	83		82		70-130	1		20
1,1-Dichloroethane	105		100		70-130	5		20
Chloroform	96		90		70-130	6		20
Carbon tetrachloride	105		97		70-130	8		20
1,2-Dichloropropane	102		99		70-130	3		20
Dibromochloromethane	97		99		70-130	2		20
1,1,2-Trichloroethane	95		96		70-130	1		20
Tetrachloroethene	107		99		70-130	8		20
Chlorobenzene	97		94		70-130	3		20
Trichlorofluoromethane	103		94		70-130	9		20
1,2-Dichloroethane	102		103		70-130	1		20
1,1,1-Trichloroethane	99		93		70-130	6		20
Bromodichloromethane	89		88		70-130	1		20
trans-1,3-Dichloropropene	100		99		70-130	1		20
cis-1,3-Dichloropropene	96		94		70-130	2		20
1,1-Dichloropropene	109		99		70-130	10		20
Bromoform	99		102		70-130	3		20
1,1,2,2-Tetrachloroethane	87		84		70-130	4		20
Benzene	97		93		70-130	4		20
Toluene	100		96		70-130	4		20
Ethylbenzene	101		96		70-130	5		20
Chloromethane	85		78		70-130	9		20
Bromomethane	99		94		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667004-3 WG1667004-4								
Vinyl chloride	90		81		70-130	11		20
Chloroethane	98		93		70-130	5		20
1,1-Dichloroethene	96		88		70-130	9		20
trans-1,2-Dichloroethene	94		90		70-130	4		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	95		93		70-130	2		20
1,3-Dichlorobenzene	97		93		70-130	4		20
1,4-Dichlorobenzene	95		92		70-130	3		20
Methyl tert butyl ether	93		96		70-130	3		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	97		93		70-130	4		20
cis-1,2-Dichloroethene	93		90		70-130	3		20
Dibromomethane	93		93		70-130	0		20
1,2,3-Trichloropropane	102		107		70-130	5		20
Styrene	96		93		70-130	3		20
Dichlorodifluoromethane	71		**64**	Q	70-130	10		20
Acetone	**163**	Q	**135**	Q	70-130	19		20
Carbon disulfide	91		83		70-130	9		20
Methyl ethyl ketone	122		119		70-130	2		20
Methyl isobutyl ketone	101		107		70-130	6		20
2-Hexanone	122		120		70-130	2		20
Bromochloromethane	90		90		70-130	0		20
Tetrahydrofuran	116		123		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667004-3 WG1667004-4								
2,2-Dichloropropane	103		95		70-130	8		20
1,2-Dibromoethane	99		102		70-130	3		20
1,3-Dichloropropane	101		102		70-130	1		20
1,1,1,2-Tetrachloroethane	97		96		70-130	1		20
Bromobenzene	94		94		70-130	0		20
n-Butylbenzene	111		99		70-130	11		20
sec-Butylbenzene	107		99		70-130	8		20
tert-Butylbenzene	102		95		70-130	7		20
o-Chlorotoluene	103		98		70-130	5		20
p-Chlorotoluene	102		98		70-130	4		20
1,2-Dibromo-3-chloropropane	94		98		70-130	4		20
Hexachlorobutadiene	**139**	Q	126		70-130	10		20
Isopropylbenzene	103		97		70-130	6		20
p-Isopropyltoluene	104		96		70-130	8		20
Naphthalene	92		95		70-130	3		20
n-Propylbenzene	106		99		70-130	7		20
1,2,3-Trichlorobenzene	110		106		70-130	4		20
1,2,4-Trichlorobenzene	111		104		70-130	7		20
1,3,5-Trimethylbenzene	102		96		70-130	6		20
1,2,4-Trimethylbenzene	100		95		70-130	5		20
Diethyl ether	92		93		70-130	1		20
Diisopropyl Ether	118		118		70-130	0		20
Ethyl-Tert-Butyl-Ether	102		102		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2238398

Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667004-3 WG1667004-4								
Tertiary-Amyl Methyl Ether	91		93		70-130	2		20
1,4-Dioxane	93		92		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		110		70-130
Toluene-d8	105		104		70-130
4-Bromofluorobenzene	103		103		70-130
Dibromofluoromethane	99		99		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01
Client ID: HA22-TP1_0.6-4.0
Sample Location: BOSTON, MA

Date Collected: 07/19/22 09:15
Date Received: 07/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 07/25/22 15:43
Analyst: CMM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/24/22 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	1700		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	80	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	80	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	80	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	80	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	12000	E	ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	80	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	80	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	1400		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	80	--	1
Benzo(a)anthracene	5800		ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2238398

Project Number: 134206-006 **Report Date:** 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01 Date Collected: 07/19/22 09:15

Client ID: HA22-TP1_0.6-4.0 Date Received: 07/19/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	4400		ug/kg	150	--	1
Benzo(b)fluoranthene	5200		ug/kg	110	--	1
Benzo(k)fluoranthene	1500		ug/kg	110	--	1
Chrysene	5300		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	3500		ug/kg	110	--	1
Benzo(ghi)perylene	1900		ug/kg	150	--	1
Fluorene	1500		ug/kg	190	--	1
Phenanthrene	13000	E	ug/kg	110	--	1
Dibenzo(a,h)anthracene	610		ug/kg	80	--	1
Indeno(1,2,3-cd)pyrene	2500		ug/kg	150	--	1
Pyrene	9600	E	ug/kg	110	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	1600		ug/kg	190	--	1
2-Methylnaphthalene	820		ug/kg	80	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	80	--	1
2-Chlorophenol	ND		ug/kg	80	--	1
2,4-Dichlorophenol	ND		ug/kg	80	--	1
2,4-Dimethylphenol	ND		ug/kg	80	--	1
2-Nitrophenol	ND		ug/kg	410	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	920	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	210	--	1
Biphenyl	190		ug/kg	38	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2238398

Project Number: 134206-006 **Report Date:** 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01 Date Collected: 07/19/22 09:15

Client ID: HA22-TP1_0.6-4.0 Date Received: 07/19/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		30-130
Phenol-d6	59		30-130
Nitrobenzene-d5	54		30-130
2-Fluorobiphenyl	57		30-130
2,4,6-Tribromophenol	57		30-130
4-Terphenyl-d14	51		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2238398
Project Number: 134206-006
Report Date: 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01 D
Client ID: HA22-TP1_0.6-4.0
Sample Location: BOSTON, MA

Date Collected: 07/19/22 09:15
Date Received: 07/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/01/22 15:06
Analyst: ALS
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/24/22 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	17000		ug/kg	570	--	5
Phenanthrene	19000		ug/kg	570	--	5
Pyrene	14000		ug/kg	570	--	5

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/25/22 09:32
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/24/22 01:41

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1666607-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/25/22 09:32
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/24/22 01:41

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1666607-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 07/25/22 09:32
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/24/22 01:41

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1666607-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	83		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	73		30-130
2-Fluorobiphenyl	83		30-130
2,4,6-Tribromophenol	105		30-130
4-Terphenyl-d14	102		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1666607-2 WG1666607-3								
Acenaphthene	96		86		40-140	11		30
1,2,4-Trichlorobenzene	97		83		40-140	16		30
Hexachlorobenzene	102		89		40-140	14		30
Bis(2-chloroethyl)ether	89		76		40-140	16		30
2-Chloronaphthalene	102		92		40-140	10		30
1,2-Dichlorobenzene	90		77		40-140	16		30
1,3-Dichlorobenzene	90		76		40-140	17		30
1,4-Dichlorobenzene	89		76		40-140	16		30
3,3'-Dichlorobenzidine	78		73		40-140	7		30
2,4-Dinitrotoluene	104		91		40-140	13		30
2,6-Dinitrotoluene	110		99		40-140	11		30
Azobenzene	98		87		40-140	12		30
Fluoranthene	102		92		40-140	10		30
4-Bromophenyl phenyl ether	104		92		40-140	12		30
Bis(2-chloroisopropyl)ether	81		72		40-140	12		30
Bis(2-chloroethoxy)methane	96		86		40-140	11		30
Hexachlorobutadiene	96		80		40-140	18		30
Hexachloroethane	87		74		40-140	16		30
Isophorone	93		82		40-140	13		30
Naphthalene	96		82		40-140	16		30
Nitrobenzene	92		79		40-140	15		30
Bis(2-ethylhexyl)phthalate	106		94		40-140	12		30
Butyl benzyl phthalate	100		92		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1666607-2 WG1666607-3								
Di-n-butylphthalate	102		93		40-140	9		30
Di-n-octylphthalate	103		93		40-140	10		30
Diethyl phthalate	103		90		40-140	13		30
Dimethyl phthalate	108		98		40-140	10		30
Benzo(a)anthracene	100		89		40-140	12		30
Benzo(a)pyrene	101		92		40-140	9		30
Benzo(b)fluoranthene	98		90		40-140	9		30
Benzo(k)fluoranthene	101		89		40-140	13		30
Chrysene	100		90		40-140	11		30
Acenaphthylene	104		94		40-140	10		30
Anthracene	99		89		40-140	11		30
Benzo(ghi)perylene	100		89		40-140	12		30
Fluorene	103		89		40-140	15		30
Phenanthrene	99		89		40-140	11		30
Dibenzo(a,h)anthracene	100		88		40-140	13		30
Indeno(1,2,3-cd)pyrene	108		96		40-140	12		30
Pyrene	101		92		40-140	9		30
Aniline	73		65		40-140	12		30
4-Chloroaniline	56		51		40-140	9		30
Dibenzofuran	102		89		40-140	14		30
2-Methylnaphthalene	102		90		40-140	13		30
Acetophenone	92		80		40-140	14		30
2,4,6-Trichlorophenol	113		100		30-130	12		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2238398

Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1666607-2 WG1666607-3								
2-Chlorophenol	100		84		30-130	17		30
2,4-Dichlorophenol	111		98		30-130	12		30
2,4-Dimethylphenol	103		92		30-130	11		30
2-Nitrophenol	99		84		30-130	16		30
4-Nitrophenol	106		92		30-130	14		30
2,4-Dinitrophenol	97		87		30-130	11		30
Pentachlorophenol	103		88		30-130	16		30
Phenol	100		86		30-130	15		30
2-Methylphenol	101		89		30-130	13		30
3-Methylphenol/4-Methylphenol	104		92		30-130	12		30
2,4,5-Trichlorophenol	116		102		30-130	13		30
Pyridine	52		44		30-130	17		30
Biphenyl	100		89		40-140	12		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	101		88		30-130
Phenol-d6	102		90		30-130
Nitrobenzene-d5	92		79		30-130
2-Fluorobiphenyl	102		92		30-130
2,4,6-Tribromophenol	108		93		30-130
4-Terphenyl-d14	98		89		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2238398
Project Number: 134206-006
Report Date: 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01
Client ID: HA22-TP1_0.6-4.0
Sample Location: BOSTON, MA

Date Collected: 07/19/22 09:15
Date Received: 07/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/24/22 16:39
Analyst: SC
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/23/22 23:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	132000		ug/kg	37800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	67		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/23/22 11:53
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 07/23/22 00:27

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1666425-1					
TPH (C10-C36)	ND		ug/kg	31900	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	61		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2238398

Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1666425-2								
TPH (C10-C36)	67		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	69				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01
Client ID: HA22-TP1_0.6-4.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/24/22 13:04
Analyst: MEO
Percent Solids: 87%

Date Collected: 07/19/22 09:15
Date Received: 07/19/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/21/22 00:02
Cleanup Method: EPA 3665A
Cleanup Date: 07/22/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/22/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.1	--	1	A
Aroclor 1221	ND		ug/kg	38.1	--	1	A
Aroclor 1232	ND		ug/kg	38.1	--	1	A
Aroclor 1242	ND		ug/kg	38.1	--	1	A
Aroclor 1248	ND		ug/kg	38.1	--	1	A
Aroclor 1254	ND		ug/kg	38.1	--	1	A
Aroclor 1260	ND		ug/kg	38.1	--	1	A
Aroclor 1262	ND		ug/kg	38.1	--	1	A
Aroclor 1268	ND		ug/kg	38.1	--	1	A
PCBs, Total	ND		ug/kg	38.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	101		30-150	B
Decachlorobiphenyl	97		30-150	B
2,4,5,6-Tetrachloro-m-xylene	101		30-150	A
Decachlorobiphenyl	80		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/23/22 12:54
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 07/21/22 00:02
Cleanup Method: EPA 3665A
Cleanup Date: 07/22/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/22/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1665464-1						
Aroclor 1016	ND		ug/kg	31.7	--	A
Aroclor 1221	ND		ug/kg	31.7	--	A
Aroclor 1232	ND		ug/kg	31.7	--	A
Aroclor 1242	ND		ug/kg	31.7	--	A
Aroclor 1248	ND		ug/kg	31.7	--	A
Aroclor 1254	ND		ug/kg	31.7	--	A
Aroclor 1260	ND		ug/kg	31.7	--	A
Aroclor 1262	ND		ug/kg	31.7	--	A
Aroclor 1268	ND		ug/kg	31.7	--	A
PCBs, Total	ND		ug/kg	31.7	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	113		30-150	B
Decachlorobiphenyl	78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	104		30-150	A
Decachlorobiphenyl	74		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2238398

Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1665464-2 WG1665464-3									
Aroclor 1016	**145**	Q	136		40-140	6		30	A
Aroclor 1260	101		97		40-140	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	121		113		30-150	B
Decachlorobiphenyl	81		78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	115		107		30-150	A
Decachlorobiphenyl	84		75		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2238398
Project Number: 134206-006
Report Date: 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01
Client ID: HA22-TP1_0.6-4.0
Sample Location: BOSTON, MA
Date Collected: 07/19/22 09:15
Date Received: 07/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.25	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Arsenic, Total	3.16		mg/kg	0.449	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Barium, Total	37.5		mg/kg	0.449	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Beryllium, Total	0.238		mg/kg	0.225	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Cadmium, Total	0.526		mg/kg	0.449	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Chromium, Total	9.82		mg/kg	0.449	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Lead, Total	39.3		mg/kg	2.25	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Mercury, Total	0.095		mg/kg	0.088	--	1	07/21/22 12:10	07/26/22 17:52	EPA 7471B	97,7471B	DMB
Nickel, Total	7.71		mg/kg	1.12	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Selenium, Total	ND		mg/kg	2.25	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Silver, Total	ND		mg/kg	0.449	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Thallium, Total	ND		mg/kg	2.25	--	1	07/21/22 10:57	07/26/22 09:04	EPA 3050B	97,6010D	EW
Vanadium, Total	16.3		mg/kg	0.449	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW
Zinc, Total	58.1		mg/kg	2.25	--	1	07/21/22 10:57	07/26/22 01:19	EPA 3050B	97,6010D	EW

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2238398

Project Number: 134206-006 **Report Date:** 08/01/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1665274-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Arsenic, Total	ND		mg/kg	0.400	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Barium, Total	ND		mg/kg	0.400	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Beryllium, Total	ND		mg/kg	0.200	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Cadmium, Total	ND		mg/kg	0.400	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Chromium, Total	ND		mg/kg	0.400	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Lead, Total	ND		mg/kg	2.00	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Nickel, Total	ND		mg/kg	1.00	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Selenium, Total	ND		mg/kg	2.00	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Silver, Total	ND		mg/kg	0.400	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Thallium, Total	ND		mg/kg	2.00	--	1	07/21/22 10:57	07/26/22 08:46	97,6010D	EW
Vanadium, Total	ND		mg/kg	0.400	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW
Zinc, Total	ND		mg/kg	2.00	--	1	07/21/22 10:57	07/26/22 00:41	97,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1665276-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/21/22 12:10	07/26/22 17:35	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1665274-2 WG1665274-3 SRM Lot Number: D113-540								
Antimony, Total	120		129		20-250	7		30
Arsenic, Total	82		83		70-130	1		30
Barium, Total	78		77		75-125	1		30
Beryllium, Total	91		87		75-125	4		30
Cadmium, Total	82		81		75-125	1		30
Chromium, Total	84		84		70-130	0		30
Lead, Total	77		77		72-128	0		30
Nickel, Total	80		80		70-130	0		30
Selenium, Total	83		84		66-134	1		30
Silver, Total	79		83		70-131	5		30
Thallium, Total	81		80		70-130	1		30
Vanadium, Total	80		80		74-126	0		30
Zinc, Total	77		78		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1665276-2 WG1665276-3 SRM Lot Number: D113-540								
Mercury, Total	83		92		60-140	10		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

SAMPLE RESULTS

Lab ID:	L2238398-01	Date Collected:	07/19/22 09:15
Client ID:	HA22-TP1_0.6-4.0	Date Received:	07/19/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/20/22 09:12	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

SAMPLE RESULTS

Lab ID: L2238398-01
Client ID: HA22-TP1_0.6-4.0
Sample Location: BOSTON, MA

Date Collected: 07/19/22 09:15
Date Received: 07/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	270		umhos/cm	10	--	1	-	07/20/22 04:45	1,9050A	GB
Solids, Total	86.5		%	0.100	NA	1	-	07/20/22 13:13	121,2540G	RI
pH (H)	8.2		SU	-	NA	1	-	07/20/22 02:31	1,9045D	GB
Cyanide, Reactive	ND		mg/kg	130	--	1	07/25/22 16:30	07/25/22 20:06	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/25/22 16:30	07/25/22 19:14	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-006
Lab Number: L2238398
Report Date: 08/01/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1667113-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/25/22 16:30	07/25/22 19:12	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1667125-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/25/22 16:30	07/25/22 20:03	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2238398

Report Date: 08/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1664981-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1664983-1								
Specific Conductance	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1667113-2								
Sulfide, Reactive	103		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1667125-2								
Cyanide, Reactive	77		-		30-125	-		40

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2238398
Report Date: 08/01/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238398-01A	Vial MeOH preserved	A	NA		3.5	Y	Absent		MCP-8260HLW-21(14)
L2238398-01B	Vial water preserved	A	NA		3.5	Y	Absent	19-JUL-22 18:34	MCP-8260HLW-21(14)
L2238398-01C	Vial water preserved	A	NA		3.5	Y	Absent	19-JUL-22 18:34	MCP-8260HLW-21(14)
L2238398-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2238398-01E	Vial Large Septa unpreserved (4oz)	A	NA		3.5	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2238398-01F	Glass 120ml/4oz unpreserved	A	NA		3.5	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2238398-01G	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2238398-01H	Glass 500ml/16oz unpreserved	A	NA		3.5	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2238398
Project Number:	134206-006	**Report Date:**	08/01/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/19/22

ALPHA Job #: L2238398

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-006
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note	Sample Specific Comments	Total # Bottles
38398-01	HA22-TP1_06-4.0	7/19/2022	0915	SO/F	MJD	26-4.0	x	x	x	x	x	x	x	x		8
															STOPH	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note
Container Type	A✓	A	A	A	A	A	A	A
Preservative	F A	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/19/2022	[signature] AAL	7/19/22 15:19
[signature] AAL	7/19/22 16:19	[signature]	7/19/22 16:19

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2238398
Project Name	: MATTHEWS ARENA-NORTHEASTERN U	**Project Number**	: 134206-006
Lab Sample ID	: WG1667004-5	**Lab File ID**	: V11220722B05
Instrument ID	: VOA111		
Matrix	: SOIL	**Analysis Date**	: 07/22/22 13:17

Client Sample No.	Lab Sample ID	Analysis Date
WG1667004-3LCS	WG1667004-3	07/22/22 11:57
WG1667004-4LCSD	WG1667004-4	07/22/22 12:23
HA22-TP1_0.6-4.0	L2238398-01	07/22/22 22:12

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2238398		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA111	Calibration Date	: 07/22/22 11:57		
Lab File ID	: V11220722B02	Init. Calib. Date(s)	: 06/08/22	06/08/22	
Sample No	: WG1667004-2	Init. Calib. Times	: 10:38	15:31	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	68	0
Dichlorodifluoromethane	0.291	0.206	-	29.2*	20	48	0
Chloromethane	0.364	0.309	-	15.1	20	57	0
Vinyl chloride	0.262	0.235	-	10.3	20	59	0
Bromomethane	0.121	0.12	-	0.8	20	77	0
Chloroethane	0.16	0.158	-	1.3	20	64	0
Trichlorofluoromethane	0.378	0.39	-	-3.2	20	67	0
Ethyl ether	0.128	0.119	-	7	20	65	0
1,1-Dichloroethene	0.216	0.207	-	4.2	20	65	0
Carbon disulfide	0.705	0.639	-	9.4	20	65	0
Methylene chloride	0.299	0.248	-	17.1	20	64	0
Acetone	40	65.365	-	-63.4*	20	122	0
trans-1,2-Dichloroethene	0.251	0.236	-	6	20	65	0
Methyl tert-butyl ether	0.701	0.654	-	6.7	20	66	0
Diisopropyl ether	0.905	1.068	-	-18	20	83	0
1,1-Dichloroethane	0.452	0.473	-	-4.6	20	72	0
Ethyl tert-butyl ether	0.842	0.861	-	-2.3	20	72	0
cis-1,2-Dichloroethene	0.286	0.264	-	7.7	20	65	0
2,2-Dichloropropane	0.401	0.413	-	-3	20	71	0
Bromochloromethane	0.127	0.113	-	11	20	60	0
Chloroform	0.508	0.487	-	4.1	20	70	0
Carbon tetrachloride	0.365	0.385	-	-5.5	20	71	0
Tetrahydrofuran	0.074	0.086	-	-16.2	20	84	0
Dibromofluoromethane	0.261	0.257	-	1.5	20	68	0
1,1,1-Trichloroethane	0.405	0.402	-	0.7	20	70	0
2-Butanone	0.114	0.139	-	-21.9*	20	97	0
1,1-Dichloropropene	0.31	0.338	-	-9	20	70	0
Benzene	1.002	0.973	-	2.9	20	67	0
tert-Amyl methyl ether	0.765	0.696	-	9	20	65	0
1,2-Dichloroethane-d4	0.268	0.291	-	-8.6	20	76	0
1,2-Dichloroethane	0.355	0.361	-	-1.7	20	71	0
Trichloroethene	0.274	0.274	-	0	20	71	0
Dibromomethane	0.164	0.153	-	6.7	20	66	0
1,2-Dichloropropane	0.269	0.274	-	-1.9	20	71	0
Bromodichloromethane	0.417	0.37	-	11.3	20	66	0
1,4-Dioxane	0.00207	0.00193*	-	6.8	20	58	0
cis-1,3-Dichloropropene	0.448	0.431	-	3.8	20	66	0
Chlorobenzene-d5	1	1	-	0	20	65	0
Toluene-d8	1.301	1.365	-	-4.9	20	69	0
Toluene	0.829	0.834	-	-0.6	20	66	0
4-Methyl-2-pentanone	0.115	0.116	-	-0.9	20	69	0
Tetrachloroethene	0.327	0.351	-	-7.3	20	66	0
trans-1,3-Dichloropropene	0.54	0.537	-	0.6	20	67	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2238398		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA111	Calibration Date	: 07/22/22 11:57		
Lab File ID	: V11220722B02	Init. Calib. Date(s)	: 06/08/22	06/08/22	
Sample No	: WG1667004-2	Init. Calib. Times	: 10:38	15:31	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.254	0.241	-	5.1	20	67	0
Chlorodibromomethane	0.355	0.346	-	2.5	20	63	0
1,3-Dichloropropane	0.493	0.498	-	-1	20	67	0
1,2-Dibromoethane	0.281	0.278	-	1.1	20	64	0
2-Hexanone	0.235	0.286	-	-21.7*	20	83	0
Chlorobenzene	0.942	0.917	-	2.7	20	64	0
Ethylbenzene	1.632	1.65	-	-1.1	20	67	0
1,1,1,2-Tetrachloroethane	0.354	0.343	-	3.1	20	63	0
p/m Xylene	0.618	0.616	-	0.3	20	65	0
o Xylene	0.617	0.599	-	2.9	20	64	0
Styrene	1.05	1.003	-	4.5	20	62	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	66	0
Bromoform	0.437	0.434	-	0.7	20	66	0
Isopropylbenzene	2.98	3.066	-	-2.9	20	67	0
4-Bromofluorobenzene	0.926	0.958	-	-3.5	20	68	0
Bromobenzene	0.768	0.721	-	6.1	20	62	0
n-Propylbenzene	3.57	3.786	-	-6.1	20	69	0
1,1,2,2-Tetrachloroethane	0.727	0.636	-	12.5	20	64	0
2-Chlorotoluene	2.151	2.209	-	-2.7	20	69	0
1,3,5-Trimethylbenzene	2.59	2.636	-	-1.8	20	66	0
1,2,3-Trichloropropane	0.554	0.565	-	-2	20	70	0
4-Chlorotoluene	2.287	2.341	-	-2.4	20	68	0
tert-Butylbenzene	2.144	2.186	-	-2	20	66	0
1,2,4-Trimethylbenzene	2.613	2.625	-	-0.5	20	66	0
sec-Butylbenzene	3.2	3.431	-	-7.2	20	69	0
p-Isopropyltoluene	2.762	2.861	-	-3.6	20	67	0
1,3-Dichlorobenzene	1.473	1.433	-	2.7	20	64	0
1,4-Dichlorobenzene	1.496	1.425	-	4.7	20	63	0
n-Butylbenzene	2.517	2.79	-	-10.8	20	72	0
1,2-Dichlorobenzene	1.397	1.328	-	4.9	20	64	0
1,2-Dibromo-3-chloropropan	0.11	0.103	-	6.4	20	62	0
Hexachlorobutadiene	0.466	0.65	-	-39.5*	20	86	0
1,2,4-Trichlorobenzene	0.891	0.988	-	-10.9	20	73	0
Naphthalene	1.955	1.798	-	8	20	63	0
1,2,3-Trichlorobenzene	0.745	0.818	-	-9.8	20	73	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2239119
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/03/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2239119-01	HA22-B3_29.0-33.0	SOIL	BOSTON, MA	07/21/22 14:30	07/21/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2239119-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0024)

Average Response Factor: 1,4-dioxane

L2239119-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Total Metals

L2239119-01: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 08/03/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01
Client ID: HA22-B3_29.0-33.0
Sample Location: BOSTON, MA

Date Collected: 07/21/22 14:30
Date Received: 07/21/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/25/22 16:45
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	9.5	--	1
1,1-Dichloroethane	ND		ug/kg	1.9	--	1
Chloroform	ND		ug/kg	2.8	--	1
Carbon tetrachloride	ND		ug/kg	1.9	--	1
1,2-Dichloropropane	ND		ug/kg	1.9	--	1
Dibromochloromethane	ND		ug/kg	1.9	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.9	--	1
Tetrachloroethene	ND		ug/kg	0.95	--	1
Chlorobenzene	ND		ug/kg	0.95	--	1
Trichlorofluoromethane	ND		ug/kg	7.6	--	1
1,2-Dichloroethane	ND		ug/kg	1.9	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.95	--	1
Bromodichloromethane	ND		ug/kg	0.95	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.9	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.95	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.95	--	1
1,1-Dichloropropene	ND		ug/kg	0.95	--	1
Bromoform	ND		ug/kg	7.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.95	--	1
Benzene	ND		ug/kg	0.95	--	1
Toluene	ND		ug/kg	1.9	--	1
Ethylbenzene	ND		ug/kg	1.9	--	1
Chloromethane	ND		ug/kg	7.6	--	1
Bromomethane	ND		ug/kg	3.8	--	1
Vinyl chloride	ND		ug/kg	1.9	--	1
Chloroethane	ND		ug/kg	3.8	--	1
1,1-Dichloroethene	ND		ug/kg	1.9	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.8	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01 Date Collected: 07/21/22 14:30

Client ID: HA22-B3_29.0-33.0 Date Received: 07/21/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.95	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.8	--	1
Methyl tert butyl ether	ND		ug/kg	3.8	--	1
p/m-Xylene	ND		ug/kg	3.8	--	1
o-Xylene	ND		ug/kg	1.9	--	1
Xylenes, Total	ND		ug/kg	1.9	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.9	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.9	--	1
Dibromomethane	ND		ug/kg	3.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.8	--	1
Styrene	ND		ug/kg	1.9	--	1
Dichlorodifluoromethane	ND		ug/kg	19	--	1
Acetone	ND		ug/kg	48	--	1
Carbon disulfide	ND		ug/kg	19	--	1
Methyl ethyl ketone	ND		ug/kg	19	--	1
Methyl isobutyl ketone	ND		ug/kg	19	--	1
2-Hexanone	ND		ug/kg	19	--	1
Bromochloromethane	ND		ug/kg	3.8	--	1
Tetrahydrofuran	ND		ug/kg	7.6	--	1
2,2-Dichloropropane	ND		ug/kg	3.8	--	1
1,2-Dibromoethane	ND		ug/kg	1.9	--	1
1,3-Dichloropropane	ND		ug/kg	3.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.95	--	1
Bromobenzene	ND		ug/kg	3.8	--	1
n-Butylbenzene	ND		ug/kg	1.9	--	1
sec-Butylbenzene	ND		ug/kg	1.9	--	1
tert-Butylbenzene	ND		ug/kg	3.8	--	1
o-Chlorotoluene	ND		ug/kg	3.8	--	1
p-Chlorotoluene	ND		ug/kg	3.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.7	--	1
Hexachlorobutadiene	ND		ug/kg	7.6	--	1
Isopropylbenzene	ND		ug/kg	1.9	--	1
p-Isopropyltoluene	ND		ug/kg	1.9	--	1
Naphthalene	ND		ug/kg	7.6	--	1
n-Propylbenzene	ND		ug/kg	1.9	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01 Date Collected: 07/21/22 14:30

Client ID: HA22-B3_29.0-33.0 Date Received: 07/21/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	3.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.8	--	1
Diethyl ether	ND		ug/kg	3.8	--	1
Diisopropyl Ether	ND		ug/kg	3.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.8	--	1
1,4-Dioxane	ND		ug/kg	150	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	99		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/25/22 09:37
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1667524-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/25/22 09:37
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1667524-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/25/22 09:37
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1667524-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667524-3 WG1667524-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	96		98		70-130	2		20
1,1-Dichloroethane	99		99		70-130	0		20
Chloroform	99		99		70-130	0		20
Carbon tetrachloride	95		95		70-130	0		20
1,2-Dichloropropane	102		101		70-130	1		20
Dibromochloromethane	93		92		70-130	1		20
1,1,2-Trichloroethane	96		98		70-130	2		20
Tetrachloroethene	96		95		70-130	1		20
Chlorobenzene	94		93		70-130	1		20
Trichlorofluoromethane	110		109		70-130	1		20
1,2-Dichloroethane	100		101		70-130	1		20
1,1,1-Trichloroethane	98		98		70-130	0		20
Bromodichloromethane	96		98		70-130	2		20
trans-1,3-Dichloropropene	94		94		70-130	0		20
cis-1,3-Dichloropropene	97		97		70-130	0		20
1,1-Dichloropropene	103		102		70-130	1		20
Bromoform	86		87		70-130	1		20
1,1,2,2-Tetrachloroethane	90		93		70-130	3		20
Benzene	98		98		70-130	0		20
Toluene	92		92		70-130	0		20
Ethylbenzene	96		96		70-130	0		20
Chloromethane	94		95		70-130	1		20
Bromomethane	124		120		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667524-3 WG1667524-4								
Vinyl chloride	103		101		70-130	2		20
Chloroethane	116		116		70-130	0		20
1,1-Dichloroethene	94		104		70-130	10		20
trans-1,2-Dichloroethene	94		94		70-130	0		20
Trichloroethene	103		101		70-130	2		20
1,2-Dichlorobenzene	93		93		70-130	0		20
1,3-Dichlorobenzene	95		93		70-130	2		20
1,4-Dichlorobenzene	91		91		70-130	0		20
Methyl tert butyl ether	91		91		70-130	0		20
p/m-Xylene	96		94		70-130	2		20
o-Xylene	94		93		70-130	1		20
cis-1,2-Dichloroethene	93		93		70-130	0		20
Dibromomethane	93		97		70-130	4		20
1,2,3-Trichloropropane	93		92		70-130	1		20
Styrene	95		96		70-130	1		20
Dichlorodifluoromethane	89		86		70-130	3		20
Acetone	108		119		70-130	10		20
Carbon disulfide	98		110		70-130	12		20
Methyl ethyl ketone	88		96		70-130	9		20
Methyl isobutyl ketone	93		93		70-130	0		20
2-Hexanone	97		107		70-130	10		20
Bromochloromethane	94		92		70-130	2		20
Tetrahydrofuran	91		90		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667524-3 WG1667524-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
2,2-Dichloropropane	96		94		70-130	2		20
1,2-Dibromoethane	95		94		70-130	1		20
1,3-Dichloropropane	96		97		70-130	1		20
1,1,1,2-Tetrachloroethane	94		93		70-130	1		20
Bromobenzene	90		91		70-130	1		20
n-Butylbenzene	103		102		70-130	1		20
sec-Butylbenzene	100		99		70-130	1		20
tert-Butylbenzene	95		94		70-130	1		20
o-Chlorotoluene	96		95		70-130	1		20
p-Chlorotoluene	96		95		70-130	1		20
1,2-Dibromo-3-chloropropane	80		84		70-130	5		20
Hexachlorobutadiene	94		92		70-130	2		20
Isopropylbenzene	95		95		70-130	0		20
p-Isopropyltoluene	98		97		70-130	1		20
Naphthalene	91		92		70-130	1		20
n-Propylbenzene	98		98		70-130	0		20
1,2,3-Trichlorobenzene	91		90		70-130	1		20
1,2,4-Trichlorobenzene	90		92		70-130	2		20
1,3,5-Trimethylbenzene	95		95		70-130	0		20
1,2,4-Trimethylbenzene	94		95		70-130	1		20
Diethyl ether	104		107		70-130	3		20
Diisopropyl Ether	102		104		70-130	2		20
Ethyl-Tert-Butyl-Ether	96		98		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2239119

Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1667524-3 WG1667524-4								
Tertiary-Amyl Methyl Ether	91		92		70-130	1		20
1,4-Dioxane	89		94		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		106		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	95		95		70-130
Dibromofluoromethane	96		96		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01
Client ID: HA22-B3_29.0-33.0
Sample Location: BOSTON, MA

Date Collected: 07/21/22 14:30
Date Received: 07/21/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/03/22 05:53
Analyst: IM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/23/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	86	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	86	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	86	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	86	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	86	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	86	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	86	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01 Date Collected: 07/21/22 14:30

Client ID: HA22-B3_29.0-33.0 Date Received: 07/21/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	86	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	250	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	86	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	86	--	1
2-Chlorophenol	ND		ug/kg	86	--	1
2,4-Dichlorophenol	ND		ug/kg	86	--	1
2,4-Dimethylphenol	ND		ug/kg	86	--	1
2-Nitrophenol	ND		ug/kg	440	--	1
4-Nitrophenol	ND		ug/kg	290	--	1
2,4-Dinitrophenol	ND		ug/kg	990	--	1
Pentachlorophenol	ND		ug/kg	410	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	220	--	1
Biphenyl	ND		ug/kg	41	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01 Date Collected: 07/21/22 14:30

Client ID: HA22-B3_29.0-33.0 Date Received: 07/21/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		30-130
Phenol-d6	90		30-130
Nitrobenzene-d5	31		30-130
2-Fluorobiphenyl	91		30-130
2,4,6-Tribromophenol	54		30-130
4-Terphenyl-d14	84		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/02/22 22:06
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/23/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1666432-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/02/22 22:06
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/23/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1666432-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/02/22 22:06
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/23/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1666432-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	91		30-130
Phenol-d6	91		30-130
Nitrobenzene-d5	81		30-130
2-Fluorobiphenyl	90		30-130
2,4,6-Tribromophenol	111		30-130
4-Terphenyl-d14	103		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1666432-2 WG1666432-3								
Acenaphthene	91		92		40-140	1		30
1,2,4-Trichlorobenzene	85		91		40-140	7		30
Hexachlorobenzene	116		116		40-140	0		30
Bis(2-chloroethyl)ether	82		84		40-140	2		30
2-Chloronaphthalene	95		95		40-140	0		30
1,2-Dichlorobenzene	86		86		40-140	0		30
1,3-Dichlorobenzene	80		84		40-140	5		30
1,4-Dichlorobenzene	80		85		40-140	6		30
3,3'-Dichlorobenzidine	85		87		40-140	2		30
2,4-Dinitrotoluene	106		104		40-140	2		30
2,6-Dinitrotoluene	101		103		40-140	2		30
Azobenzene	95		94		40-140	1		30
Fluoranthene	95		93		40-140	2		30
4-Bromophenyl phenyl ether	112		108		40-140	4		30
Bis(2-chloroisopropyl)ether	54		55		40-140	2		30
Bis(2-chloroethoxy)methane	85		89		40-140	5		30
Hexachlorobutadiene	96		103		40-140	7		30
Hexachloroethane	84		89		40-140	6		30
Isophorone	84		86		40-140	2		30
Naphthalene	89		91		40-140	2		30
Nitrobenzene	88		92		40-140	4		30
Bis(2-ethylhexyl)phthalate	93		95		40-140	2		30
Butyl benzyl phthalate	98		96		40-140	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1666432-2 WG1666432-3								
Di-n-butylphthalate	102		103		40-140	1		30
Di-n-octylphthalate	95		94		40-140	1		30
Diethyl phthalate	96		95		40-140	1		30
Dimethyl phthalate	94		95		40-140	1		30
Benzo(a)anthracene	97		98		40-140	1		30
Benzo(a)pyrene	113		110		40-140	3		30
Benzo(b)fluoranthene	116		99		40-140	16		30
Benzo(k)fluoranthene	98		103		40-140	5		30
Chrysene	92		92		40-140	0		30
Acenaphthylene	96		96		40-140	0		30
Anthracene	92		90		40-140	2		30
Benzo(ghi)perylene	99		100		40-140	1		30
Fluorene	94		95		40-140	1		30
Phenanthrene	88		87		40-140	1		30
Dibenzo(a,h)anthracene	103		101		40-140	2		30
Indeno(1,2,3-cd)pyrene	109		111		40-140	2		30
Pyrene	92		91		40-140	1		30
Aniline	71		76		40-140	7		30
4-Chloroaniline	78		79		40-140	1		30
Dibenzofuran	96		95		40-140	1		30
2-Methylnaphthalene	126		127		40-140	1		30
Acetophenone	87		90		40-140	3		30
2,4,6-Trichlorophenol	108		107		30-130	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2239119
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1666432-2 WG1666432-3								
2-Chlorophenol	92		92		30-130	0		30
2,4-Dichlorophenol	95		97		30-130	2		30
2,4-Dimethylphenol	90		95		30-130	5		30
2-Nitrophenol	90		95		30-130	5		30
4-Nitrophenol	94		88		30-130	7		30
2,4-Dinitrophenol	87		85		30-130	2		30
Pentachlorophenol	85		81		30-130	5		30
Phenol	92		92		30-130	0		30
2-Methylphenol	91		93		30-130	2		30
3-Methylphenol/4-Methylphenol	94		92		30-130	2		30
2,4,5-Trichlorophenol	105		108		30-130	3		30
Pyridine	80		79		30-130	1		30
Biphenyl	91		93		40-140	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	108		102		30-130
Phenol-d6	106		102		30-130
Nitrobenzene-d5	93		93		30-130
2-Fluorobiphenyl	99		99		30-130
2,4,6-Tribromophenol	130		125		30-130
4-Terphenyl-d14	100		97		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2239119
Project Number: 134206-007
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01
Client ID: HA22-B3_29.0-33.0
Sample Location: BOSTON, MA

Date Collected: 07/21/22 14:30
Date Received: 07/21/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/23/22 14:48
Analyst: AL
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/23/22 00:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	40400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	65		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/23/22 11:53
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 07/23/22 00:27

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1666425-1					
TPH (C10-C36)	ND		ug/kg	31900	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	61		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2239119

Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1666425-2								
TPH (C10-C36)	67		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	69				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2239119
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01
Client ID: HA22-B3_29.0-33.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 07/25/22 21:33
Analyst: JM
Percent Solids: 80%

Date Collected: 07/21/22 14:30
Date Received: 07/21/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/22/22 23:34
Cleanup Method: EPA 3665A
Cleanup Date: 07/24/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/24/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.5	--	1	A
Aroclor 1221	ND		ug/kg	41.5	--	1	A
Aroclor 1232	ND		ug/kg	41.5	--	1	A
Aroclor 1242	ND		ug/kg	41.5	--	1	A
Aroclor 1248	ND		ug/kg	41.5	--	1	A
Aroclor 1254	ND		ug/kg	41.5	--	1	A
Aroclor 1260	ND		ug/kg	41.5	--	1	A
Aroclor 1262	ND		ug/kg	41.5	--	1	A
Aroclor 1268	ND		ug/kg	41.5	--	1	A
PCBs, Total	ND		ug/kg	41.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	68		30-150	B
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	63		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/23/22 14:19
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 07/22/22 20:31
Cleanup Method: EPA 3665A
Cleanup Date: 07/23/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/23/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1666391-1						
Aroclor 1016	ND		ug/kg	31.9	--	A
Aroclor 1221	ND		ug/kg	31.9	--	A
Aroclor 1232	ND		ug/kg	31.9	--	A
Aroclor 1242	ND		ug/kg	31.9	--	A
Aroclor 1248	ND		ug/kg	31.9	--	A
Aroclor 1254	ND		ug/kg	31.9	--	A
Aroclor 1260	ND		ug/kg	31.9	--	A
Aroclor 1262	ND		ug/kg	31.9	--	A
Aroclor 1268	ND		ug/kg	31.9	--	A
PCBs, Total	ND		ug/kg	31.9	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	78		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2239119

Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1666391-2 WG1666391-3									
Aroclor 1016	80		86		40-140	7		30	A
Aroclor 1260	73		80		40-140	9		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		87		30-150	B
Decachlorobiphenyl	71		77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	77		81		30-150	A
Decachlorobiphenyl	72		78		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2239119
Project Number: 134206-007
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01
Client ID: HA22-B3_29.0-33.0
Sample Location: BOSTON, MA

Date Collected: 07/21/22 14:30
Date Received: 07/21/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	4.73	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Arsenic, Total	3.38		mg/kg	0.946	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Barium, Total	55.8		mg/kg	0.946	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Beryllium, Total	0.539		mg/kg	0.473	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Cadmium, Total	1.08		mg/kg	0.946	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Chromium, Total	34.4		mg/kg	0.946	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Lead, Total	11.2		mg/kg	4.73	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Mercury, Total	ND		mg/kg	0.090	--	1	07/23/22 00:24	08/02/22 19:22	EPA 7471B	97,7471B	DMB
Nickel, Total	22.4		mg/kg	2.36	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Selenium, Total	ND		mg/kg	4.73	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Silver, Total	ND		mg/kg	0.946	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Thallium, Total	ND		mg/kg	4.73	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Vanadium, Total	43.0		mg/kg	0.946	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW
Zinc, Total	56.2		mg/kg	4.73	--	2	07/22/22 23:40	07/26/22 11:07	EPA 3050B	97,6010D	EW

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2239119

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1666321-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Arsenic, Total	ND		mg/kg	0.400	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Barium, Total	ND		mg/kg	0.400	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Beryllium, Total	ND		mg/kg	0.200	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Cadmium, Total	ND		mg/kg	0.400	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Chromium, Total	ND		mg/kg	0.400	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Lead, Total	ND		mg/kg	2.00	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Nickel, Total	ND		mg/kg	1.00	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Selenium, Total	ND		mg/kg	2.00	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Silver, Total	ND		mg/kg	0.400	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Thallium, Total	ND		mg/kg	2.00	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Vanadium, Total	ND		mg/kg	0.400	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW
Zinc, Total	ND		mg/kg	2.00	--	1	07/22/22 23:40	07/26/22 07:44	97,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1666323-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/23/22 00:24	08/02/22 18:42	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1666321-2 WG1666321-3 SRM Lot Number: D113-540								
Antimony, Total	122		124		20-250	2		30
Arsenic, Total	86		88		70-130	2		30
Barium, Total	79		85		75-125	7		30
Beryllium, Total	82		89		75-125	8		30
Cadmium, Total	80		85		75-125	6		30
Chromium, Total	75		78		70-130	4		30
Lead, Total	89		90		72-128	1		30
Nickel, Total	83		86		70-130	4		30
Selenium, Total	91		92		66-134	1		30
Silver, Total	82		82		70-131	0		30
Thallium, Total	84		88		70-130	5		30
Vanadium, Total	74		76		74-126	3		30
Zinc, Total	77		79		70-130	3		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1666323-2 WG1666323-3 SRM Lot Number: D113-540								
Mercury, Total	90		100		60-140	11		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

SAMPLE RESULTS

Lab ID:	L2239119-01	Date Collected:	07/21/22 14:30
Client ID:	HA22-B3_29.0-33.0	Date Received:	07/21/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Clay
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/25/22 08:40	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2239119-01
Client ID: HA22-B3_29.0-33.0
Sample Location: BOSTON, MA

Date Collected: 07/21/22 14:30
Date Received: 07/21/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	740		umhos/cm	10	--	1	-	07/22/22 11:48	1,9050A	KS
Solids, Total	79.7		%	0.100	NA	1	-	07/22/22 09:19	121,2540G	RI
pH (H)	8.0		SU	-	NA	1	-	07/22/22 08:57	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/25/22 21:27	07/25/22 23:22	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/25/22 21:27	07/25/22 22:59	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2239119
Report Date: 08/03/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1667015-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/25/22 21:27	07/25/22 22:52	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1667228-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/25/22 21:27	07/25/22 23:16	125,7.3	RM

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1666086-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1666089-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1667015-2								
Sulfide, Reactive	103		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1667228-2								
Cyanide, Reactive	77		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2239119

Report Date: 08/03/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1666086-2 QC Sample: L2239119-01 Client ID: HA22-B3_29.0-33.0						
pH (H)	8.0	7.9	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1666089-2 QC Sample: L2239119-01 Client ID: HA22-B3_29.0-33.0						
Specific Conductance @ 25 C	740	800	umhos/cm	8		20

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2239119
Report Date: 08/03/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2239119-01A	Vial MeOH preserved	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2239119-01B	Vial water preserved	A	NA		3.8	Y	Absent	21-JUL-22 21:42	MCP-8260HLW-21(14)
L2239119-01C	Vial water preserved	A	NA		3.8	Y	Absent	21-JUL-22 21:42	MCP-8260HLW-21(14)
L2239119-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2239119-01E	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2239119-01F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2239119-01G	Glass 250ml/8oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2239119-01H	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2239119
Project Number:	134206-007	**Report Date:**	08/03/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/21/22

ALPHA Job #: L2239119

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
39119-01	HA22-B3_29.0-33.0	1430	7/21/2022	SO/N	MOD	29-33	x	x	x	x	x	x	x	x		8
															8 TOTAL	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/21/2022	MCM AFL	7/21/22 1545
MCM	7/21/22 1640	[signature]	7/21/22 1640

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2239119
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1667524-5	**Lab File ID**	: V29220725A05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 07/25/22 09:37

Client Sample No.	Lab Sample ID	Analysis Date
WG1667524-3LCS	WG1667524-3	07/25/22 08:33
WG1667524-4LCSD	WG1667524-4	07/25/22 08:54
HA22-B3_29.0-33.0	L2239119-01	07/25/22 16:45

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2239119
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA129	Calibration Date	: 07/25/22 08:11
Lab File ID	: V29220725A01	Init. Calib. Date(s)	: 07/12/22 07/12/22
Sample No	: WG1667524-2	Init. Calib. Times	: 18:30 21:40
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	72	0
Dichlorodifluoromethane	0.285	0.267	-	6.3	20	64	0
Chloromethane	0.328	0.34	-	-3.7	20	75	0
Vinyl chloride	0.302	0.341	-	-12.9	20	78	0
Bromomethane	0.165	0.211	-	-27.9*	20	92	0
Chloroethane	0.183	0.226	-	-23.5*	20	87	0
Trichlorofluoromethane	0.408	0.467	-	-14.5	20	76	0
Ethyl ether	0.15	0.159	-	-6	20	76	0
1,1-Dichloroethene	0.248	0.258	-	-4	20	73	0
Carbon disulfide	0.739	0.762	-	-3.1	20	72	0
Freon-113	0.257	0.278	-	-8.2	20	74	0
Acrolein	0.045	0.041	-	8.9	20	64	0
Methylene chloride	40	40.374	-	-0.9	20	70	0
Acetone	40	39.156	-	2.1	20	67	0
trans-1,2-Dichloroethene	0.292	0.29	-	0.7	20	71	0
Methyl acetate	0.195	0.188	-	3.6	20	71	0
Methyl tert-butyl ether	0.792	0.723	-	8.7	20	64	0
tert-Butyl alcohol	0.04	0.032	-	20	20	59	0
Diisopropyl ether	0.908	0.975	-	-7.4	20	73	0
1,1-Dichloroethane	0.524	0.552	-	-5.3	20	75	0
Halothane	0.227	0.227	-	0	20	70	0
Acrylonitrile	0.101	0.094	-	6.9	20	72	0
Ethyl tert-butyl ether	0.922	0.91	-	1.3	20	67	0
Vinyl acetate	0.669	0.654	-	2.2	20	66	0
cis-1,2-Dichloroethene	0.331	0.328	-	0.9	20	70	0
2,2-Dichloropropane	0.447	0.452	-	-1.1	20	71	0
Bromochloromethane	0.163	0.152	-	6.7	20	66	0
Cyclohexane	0.479	0.542	-	-13.2	20	76	0
Chloroform	0.54	0.555	-	-2.8	20	73	0
Ethyl acetate	0.295	0.27	-	8.5	20	66	0
Carbon tetrachloride	0.414	0.405	-	2.2	20	67	0
Tetrahydrofuran	0.116	0.104	-	10.3	20	70	0
Dibromofluoromethane	0.28	0.264	-	5.7	20	68	0
1,1,1-Trichloroethane	0.444	0.46	-	-3.6	20	71	0
2-Butanone	40	32.622	-	18.4	20	61	0
1,1-Dichloropropene	0.367	0.4	-	-9	20	73	0
Benzene	1.158	1.209	-	-4.4	20	73	0
tert-Amyl methyl ether	0.833	0.759	-	8.9	20	62	0
1,2-Dichloroethane-d4	0.302	0.307	-	-1.7	20	74	0
1,2-Dichloroethane	0.413	0.418	-	-1.2	20	71	0
Methyl cyclohexane	0.491	0.534	-	-8.8	20	73	0
Trichloroethene	0.303	0.314	-	-3.6	20	71	0
Dibromomethane	0.194	0.186	-	4.1	20	68	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2239119
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA129	Calibration Date	: 07/25/22 08:11
Lab File ID	: V29220725A01	Init. Calib. Date(s)	: 07/12/22 07/12/22
Sample No	: WG1667524-2	Init. Calib. Times	: 18:30 21:40
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.31	0.332	-	-7.1	20	74	0
2-Chloroethyl vinyl ether	0.201	0.191	-	5	20	64	0
Bromodichloromethane	0.422	0.414	-	1.9	20	67	0
1,4-Dioxane	0.00333	0.00293*	-	12	20	59	0
cis-1,3-Dichloropropene	0.494	0.488	-	1.2	20	68	0
Chlorobenzene-d5	1	1	-	0	20	73	0
Toluene-d8	1.282	1.27	-	0.9	20	72	0
Toluene	0.949	0.913	-	3.8	20	70	0
4-Methyl-2-pentanone	0.143	0.127	-	11.2	20	63	0
Tetrachloroethene	0.383	0.384	-	-0.3	20	69	0
trans-1,3-Dichloropropene	0.554	0.536	-	3.2	20	67	0
Ethyl methacrylate	0.487	0.436	-	10.5	20	62	0
1,1,2-Trichloroethane	0.269	0.262	-	2.6	20	67	0
Chlorodibromomethane	0.391	0.365	-	6.6	20	63	0
1,3-Dichloropropane	0.558	0.552	-	1.1	20	70	0
1,2-Dibromoethane	0.33	0.312	-	5.5	20	64	0
2-Hexanone	0.263	0.236	-	10.3	20	65	0
Chlorobenzene	1.05	1.036	-	1.3	20	70	0
Ethylbenzene	1.733	1.772	-	-2.3	20	72	0
1,1,1,2-Tetrachloroethane	0.379	0.368	-	2.9	20	66	0
p/m Xylene	0.679	0.688	-	-1.3	20	71	0
o Xylene	0.671	0.669	-	0.3	20	71	0
Styrene	1.113	1.115	-	-0.2	20	70	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	74	0
Bromoform	0.479	0.403	-	15.9	20	59	0
Isopropylbenzene	3.261	3.315	-	-1.7	20	71	0
4-Bromofluorobenzene	0.934	0.897	-	4	20	71	0
Bromobenzene	0.845	0.798	-	5.6	20	67	0
n-Propylbenzene	3.816	4.053	-	-6.2	20	75	0
1,4-Dichlorobutane	1.17	1.131	-	3.3	20	71	0
1,1,2,2-Tetrachloroethane	0.818	0.773	-	5.5	20	67	0
4-Ethyltoluene	3.238	3.392	-	-4.8	20	73	0
2-Chlorotoluene	2.302	2.341	-	-1.7	20	70	0
1,3,5-Trimethylbenzene	2.812	2.886	-	-2.6	20	73	0
1,2,3-Trichloropropane	0.67	0.618	-	7.8	20	65	0
trans-1,4-Dichloro-2-buten	0.273	0.258	-	5.5	20	66	0
4-Chlorotoluene	2.423	2.481	-	-2.4	20	73	0
tert-Butylbenzene	2.405	2.43	-	-1	20	71	0
1,2,4-Trimethylbenzene	2.765	2.818	-	-1.9	20	72	0
sec-Butylbenzene	3.507	3.755	-	-7.1	20	74	0
p-Isopropyltoluene	3.042	3.182	-	-4.6	20	72	0
1,3-Dichlorobenzene	1.637	1.631	-	0.4	20	71	0
1,4-Dichlorobenzene	40	38.779	-	3.1	20	70	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2239119
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Instrument ID	: VOA129	**Calibration Date**	: 07/25/22 08:11
Lab File ID	: V29220725A01	**Init. Calib. Date(s)**	: 07/12/22 07/12/22
Sample No	: WG1667524-2	**Init. Calib. Times**	: 18:30 21:40
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.856	1.936	-	-4.3	20	74	0
n-Butylbenzene	2.682	2.966	-	-10.6	20	77	0
1,2-Dichlorobenzene	1.573	1.54	-	2.1	20	70	0
1,2,4,5-Tetramethylbenzene	2.886	2.846	-	1.4	20	69	0
1,2-Dibromo-3-chloropropan	0.152	0.119	-	21.7*	20	57	0
1,3,5-Trichlorobenzene	1.196	1.205	-	-0.8	20	72	0
Hexachlorobutadiene	0.559	0.559	-	0	20	71	0
1,2,4-Trichlorobenzene	1.111	1.088	-	2.1	20	70	0
Naphthalene	2.757	2.486	-	9.8	20	64	0
1,2,3-Trichlorobenzene	1.055	1.003	-	4.9	20	70	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2240510
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/03/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2240510-01	HA22-B2_5.0-7.0	SOIL	BOSTON, MA	07/28/22 07:30	07/28/22
L2240510-02	HA22-TP4_0.0-5.0	SOIL	BOSTON, MA	07/28/22 08:00	07/28/22
L2240510-03	HA22-TP4_5.0-11.0	SOIL	BOSTON, MA	07/28/22 09:10	07/28/22
L2240510-04	HA22-TP5_0.0-5.0	SOIL	BOSTON, MA	07/28/22 11:15	07/28/22
L2240510-05	HA22-TP5_5.0-10.0	SOIL	BOSTON, MA	07/28/22 12:15	07/28/22
L2240510-06	HA22-B2_39.0-41.0	SOIL	BOSTON, MA	07/28/22 13:00	07/28/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2240510-01 and -06: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0025)

Average Response Factor: 1,4-dioxane

L2240510-01 and -06: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 08/03/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1670225-3	Dichlorodifluoromethane	LCS	139	70-130	01,06	potential high bias
8260D	Batch QC	WG1670225-3	Acetone	LCS	150	70-130	01,06	potential high bias
8260D	Batch QC	WG1670225-4	Dichlorodifluoromethane	LCSD	140	70-130	01,06	potential high bias
8260D	Batch QC	WG1670225-4	Acetone	LCSD	31	20	01,06	non-directional bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01
Client ID: HA22-B2_5.0-7.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 07:30
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/29/22 15:35
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	--	1
1,1-Dichloroethane	ND		ug/kg	0.98	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	0.98	--	1
1,2-Dichloropropane	ND		ug/kg	0.98	--	1
Dibromochloromethane	ND		ug/kg	0.98	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.98	--	1
Tetrachloroethene	ND		ug/kg	0.49	--	1
Chlorobenzene	ND		ug/kg	0.49	--	1
Trichlorofluoromethane	ND		ug/kg	3.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.98	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	--	1
Bromodichloromethane	ND		ug/kg	0.49	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.98	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.49	--	1
1,1-Dichloropropene	ND		ug/kg	0.49	--	1
Bromoform	ND		ug/kg	3.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Benzene	ND		ug/kg	0.49	--	1
Toluene	ND		ug/kg	0.98	--	1
Ethylbenzene	ND		ug/kg	0.98	--	1
Chloromethane	ND		ug/kg	3.9	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	0.98	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	0.98	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01 Date Collected: 07/28/22 07:30

Client ID: HA22-B2_5.0-7.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.49	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	0.98	--	1
Xylenes, Total	ND		ug/kg	0.98	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.98	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.98	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	0.98	--	1
Dichlorodifluoromethane	ND		ug/kg	9.8	--	1
Acetone	26		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	9.8	--	1
Methyl ethyl ketone	ND		ug/kg	9.8	--	1
Methyl isobutyl ketone	ND		ug/kg	9.8	--	1
2-Hexanone	ND		ug/kg	9.8	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	3.9	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	0.98	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	0.98	--	1
sec-Butylbenzene	ND		ug/kg	0.98	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	3.9	--	1
Isopropylbenzene	ND		ug/kg	0.98	--	1
p-Isopropyltoluene	ND		ug/kg	0.98	--	1
Naphthalene	6.9		ug/kg	3.9	--	1
n-Propylbenzene	ND		ug/kg	0.98	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01 Date Collected: 07/28/22 07:30

Client ID: HA22-B2_5.0-7.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	79	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	109		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06
Client ID: HA22-B2_39.0-41.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 13:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/29/22 15:55
Analyst: NLK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	--	1
1,1-Dichloroethane	ND		ug/kg	0.98	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	0.98	--	1
1,2-Dichloropropane	ND		ug/kg	0.98	--	1
Dibromochloromethane	ND		ug/kg	0.98	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.98	--	1
Tetrachloroethene	ND		ug/kg	0.49	--	1
Chlorobenzene	ND		ug/kg	0.49	--	1
Trichlorofluoromethane	ND		ug/kg	3.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.98	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	--	1
Bromodichloromethane	ND		ug/kg	0.49	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.98	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.49	--	1
1,1-Dichloropropene	ND		ug/kg	0.49	--	1
Bromoform	ND		ug/kg	3.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Benzene	ND		ug/kg	0.49	--	1
Toluene	ND		ug/kg	0.98	--	1
Ethylbenzene	ND		ug/kg	0.98	--	1
Chloromethane	ND		ug/kg	3.9	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	0.98	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	0.98	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06 Date Collected: 07/28/22 13:00

Client ID: HA22-B2_39.0-41.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.49	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	0.98	--	1
Xylenes, Total	ND		ug/kg	0.98	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.98	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.98	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	0.98	--	1
Dichlorodifluoromethane	ND		ug/kg	9.8	--	1
Acetone	ND		ug/kg	24	--	1
Carbon disulfide	ND		ug/kg	9.8	--	1
Methyl ethyl ketone	ND		ug/kg	9.8	--	1
Methyl isobutyl ketone	ND		ug/kg	9.8	--	1
2-Hexanone	ND		ug/kg	9.8	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	3.9	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	0.98	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	0.98	--	1
sec-Butylbenzene	ND		ug/kg	0.98	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.9	--	1
Isopropylbenzene	ND		ug/kg	0.98	--	1
p-Isopropyltoluene	ND		ug/kg	0.98	--	1
Naphthalene	ND		ug/kg	3.9	--	1
n-Propylbenzene	ND		ug/kg	0.98	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06 Date Collected: 07/28/22 13:00

Client ID: HA22-B2_39.0-41.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	78	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	106		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/29/22 10:15
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,06 Batch: WG1670225-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/29/22 10:15
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,06 Batch: WG1670225-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/29/22 10:15
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,06 Batch: WG1670225-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,06 Batch: WG1670225-3 WG1670225-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	98		100		70-130	2		20
1,1-Dichloroethane	98		100		70-130	2		20
Chloroform	92		95		70-130	3		20
Carbon tetrachloride	88		91		70-130	3		20
1,2-Dichloropropane	96		99		70-130	3		20
Dibromochloromethane	86		88		70-130	2		20
1,1,2-Trichloroethane	93		96		70-130	3		20
Tetrachloroethene	90		93		70-130	3		20
Chlorobenzene	91		94		70-130	3		20
Trichlorofluoromethane	104		106		70-130	2		20
1,2-Dichloroethane	96		99		70-130	3		20
1,1,1-Trichloroethane	92		95		70-130	3		20
Bromodichloromethane	88		89		70-130	1		20
trans-1,3-Dichloropropene	91		94		70-130	3		20
cis-1,3-Dichloropropene	94		96		70-130	2		20
1,1-Dichloropropene	96		100		70-130	4		20
Bromoform	83		86		70-130	4		20
1,1,2,2-Tetrachloroethane	96		96		70-130	0		20
Benzene	94		96		70-130	2		20
Toluene	85		86		70-130	1		20
Ethylbenzene	90		92		70-130	2		20
Chloromethane	121		125		70-130	3		20
Bromomethane	107		107		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,06 Batch: WG1670225-3 WG1670225-4								
Vinyl chloride	112		116		70-130	4		20
Chloroethane	115		115		70-130	0		20
1,1-Dichloroethene	97		103		70-130	6		20
trans-1,2-Dichloroethene	90		94		70-130	4		20
Trichloroethene	93		96		70-130	3		20
1,2-Dichlorobenzene	90		93		70-130	3		20
1,3-Dichlorobenzene	92		94		70-130	2		20
1,4-Dichlorobenzene	83		88		70-130	6		20
Methyl tert butyl ether	93		95		70-130	2		20
p/m-Xylene	90		93		70-130	3		20
o-Xylene	91		94		70-130	3		20
cis-1,2-Dichloroethene	90		93		70-130	3		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	99		100		70-130	1		20
Styrene	91		94		70-130	3		20
Dichlorodifluoromethane	**139**	Q	**140**	Q	70-130	1		20
Acetone	**150**	Q	110		70-130	**31**	Q	20
Carbon disulfide	103		106		70-130	3		20
Methyl ethyl ketone	103		105		70-130	2		20
Methyl isobutyl ketone	89		89		70-130	0		20
2-Hexanone	86		86		70-130	0		20
Bromochloromethane	90		91		70-130	1		20
Tetrahydrofuran	99		109		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,06 Batch: WG1670225-3 WG1670225-4								
2,2-Dichloropropane	94		92		70-130	2		20
1,2-Dibromoethane	90		92		70-130	2		20
1,3-Dichloropropane	96		98		70-130	2		20
1,1,1,2-Tetrachloroethane	89		91		70-130	2		20
Bromobenzene	87		91		70-130	4		20
n-Butylbenzene	96		101		70-130	5		20
sec-Butylbenzene	94		96		70-130	2		20
tert-Butylbenzene	88		91		70-130	3		20
o-Chlorotoluene	92		96		70-130	4		20
p-Chlorotoluene	93		96		70-130	3		20
1,2-Dibromo-3-chloropropane	83		85		70-130	2		20
Hexachlorobutadiene	87		90		70-130	3		20
Isopropylbenzene	90		92		70-130	2		20
p-Isopropyltoluene	91		94		70-130	3		20
Naphthalene	84		88		70-130	5		20
n-Propylbenzene	94		97		70-130	3		20
1,2,3-Trichlorobenzene	88		92		70-130	4		20
1,2,4-Trichlorobenzene	87		93		70-130	7		20
1,3,5-Trimethylbenzene	92		95		70-130	3		20
1,2,4-Trimethylbenzene	90		93		70-130	3		20
Diethyl ether	96		98		70-130	2		20
Diisopropyl Ether	93		97		70-130	4		20
Ethyl-Tert-Butyl-Ether	92		96		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,06 Batch: WG1670225-3 WG1670225-4								
Tertiary-Amyl Methyl Ether	87		90		70-130	3		20
1,4-Dioxane	90		89		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		106		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	101		100		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01
Client ID: HA22-B2_5.0-7.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 07:30
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/03/22 16:31
Analyst: JG
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	81	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	81	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	81	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	81	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	130		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	81	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	81	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	81	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01 Date Collected: 07/28/22 07:30

Client ID: HA22-B2_5.0-7.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	150	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	81	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	81	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	81	--	1
2-Chlorophenol	ND		ug/kg	81	--	1
2,4-Dichlorophenol	ND		ug/kg	81	--	1
2,4-Dimethylphenol	ND		ug/kg	81	--	1
2-Nitrophenol	ND		ug/kg	420	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	920	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	210	--	1
Biphenyl	ND		ug/kg	38	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01 Date Collected: 07/28/22 07:30

Client ID: HA22-B2_5.0-7.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	91		30-130
Phenol-d6	94		30-130
Nitrobenzene-d5	86		30-130
2-Fluorobiphenyl	85		30-130
2,4,6-Tribromophenol	86		30-130
4-Terphenyl-d14	70		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06
Client ID: HA22-B2_39.0-41.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 13:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/03/22 13:15
Analyst: IM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	86	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	86	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	86	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	86	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	86	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	86	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	86	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06 Date Collected: 07/28/22 13:00

Client ID: HA22-B2_39.0-41.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	86	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	86	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	86	--	1
2-Chlorophenol	ND		ug/kg	86	--	1
2,4-Dichlorophenol	ND		ug/kg	86	--	1
2,4-Dimethylphenol	ND		ug/kg	86	--	1
2-Nitrophenol	ND		ug/kg	440	--	1
4-Nitrophenol	ND		ug/kg	290	--	1
2,4-Dinitrophenol	ND		ug/kg	980	--	1
Pentachlorophenol	ND		ug/kg	410	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	220	--	1
Biphenyl	ND		ug/kg	41	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06 Date Collected: 07/28/22 13:00

Client ID: HA22-B2_39.0-41.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	90		30-130
Phenol-d6	92		30-130
Nitrobenzene-d5	92		30-130
2-Fluorobiphenyl	86		30-130
2,4,6-Tribromophenol	87		30-130
4-Terphenyl-d14	78		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/02/22 16:26
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:46

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,06 Batch: WG1668759-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/02/22 16:26
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:46

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,06 Batch: WG1668759-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/02/22 16:26
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:46

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,06 Batch: WG1668759-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		30-130
Phenol-d6	83		30-130
Nitrobenzene-d5	55		30-130
2-Fluorobiphenyl	82		30-130
2,4,6-Tribromophenol	85		30-130
4-Terphenyl-d14	79		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,06 Batch: WG1668759-2 WG1668759-3								
Acenaphthene	79		71		40-140	11		30
1,2,4-Trichlorobenzene	71		61		40-140	15		30
Hexachlorobenzene	71		63		40-140	12		30
Bis(2-chloroethyl)ether	83		70		40-140	17		30
2-Chloronaphthalene	72		62		40-140	15		30
1,2-Dichlorobenzene	75		62		40-140	19		30
1,3-Dichlorobenzene	75		63		40-140	17		30
1,4-Dichlorobenzene	74		63		40-140	16		30
3,3'-Dichlorobenzidine	62		59		40-140	5		30
2,4-Dinitrotoluene	87		77		40-140	12		30
2,6-Dinitrotoluene	74		66		40-140	11		30
Azobenzene	86		74		40-140	15		30
Fluoranthene	74		65		40-140	13		30
4-Bromophenyl phenyl ether	76		70		40-140	8		30
Bis(2-chloroisopropyl)ether	98		83		40-140	17		30
Bis(2-chloroethoxy)methane	79		68		40-140	15		30
Hexachlorobutadiene	75		63		40-140	17		30
Hexachloroethane	74		63		40-140	16		30
Isophorone	75		66		40-140	13		30
Naphthalene	78		66		40-140	17		30
Nitrobenzene	81		71		40-140	13		30
Bis(2-ethylhexyl)phthalate	84		76		40-140	10		30
Butyl benzyl phthalate	76		68		40-140	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,06 Batch: WG1668759-2 WG1668759-3								
Di-n-butylphthalate	76		69		40-140	10		30
Di-n-octylphthalate	83		76		40-140	9		30
Diethyl phthalate	78		69		40-140	12		30
Dimethyl phthalate	71		62		40-140	14		30
Benzo(a)anthracene	74		68		40-140	8		30
Benzo(a)pyrene	76		69		40-140	10		30
Benzo(b)fluoranthene	72		65		40-140	10		30
Benzo(k)fluoranthene	82		74		40-140	10		30
Chrysene	78		71		40-140	9		30
Acenaphthylene	72		62		40-140	15		30
Anthracene	78		67		40-140	15		30
Benzo(ghi)perylene	72		63		40-140	13		30
Fluorene	80		69		40-140	15		30
Phenanthrene	75		66		40-140	13		30
Dibenzo(a,h)anthracene	71		64		40-140	10		30
Indeno(1,2,3-cd)pyrene	78		69		40-140	12		30
Pyrene	74		66		40-140	11		30
Aniline	67		57		40-140	16		30
4-Chloroaniline	85		75		40-140	13		30
Dibenzofuran	79		69		40-140	14		30
2-Methylnaphthalene	77		66		40-140	15		30
Acetophenone	75		64		40-140	16		30
2,4,6-Trichlorophenol	72		64		30-130	12		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2240510

Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,06 Batch: WG1668759-2 WG1668759-3								
2-Chlorophenol	77		66		30-130	15		30
2,4-Dichlorophenol	75		64		30-130	16		30
2,4-Dimethylphenol	74		68		30-130	8		30
2-Nitrophenol	84		70		30-130	18		30
4-Nitrophenol	85		78		30-130	9		30
2,4-Dinitrophenol	73		58		30-130	23		30
Pentachlorophenol	49		45		30-130	9		30
Phenol	82		70		30-130	16		30
2-Methylphenol	79		68		30-130	15		30
3-Methylphenol/4-Methylphenol	83		74		30-130	11		30
2,4,5-Trichlorophenol	75		68		30-130	10		30
Pyridine	63		57		30-130	10		30
Biphenyl	75		64		40-140	16		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	82		70		30-130
Phenol-d6	85		71		30-130
Nitrobenzene-d5	87		71		30-130
2-Fluorobiphenyl	77		66		30-130
2,4,6-Tribromophenol	76		65		30-130
4-Terphenyl-d14	72		63		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01
Client ID: HA22-B2_5.0-7.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 07:30
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/30/22 17:34
Analyst: MC
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	337000		ug/kg	38900	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	53		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06
Client ID: HA22-B2_39.0-41.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 13:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/30/22 16:25
Analyst: MC
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	39500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	62		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/30/22 14:40
Analyst: MC

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:51

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01,06 Batch: WG1668760-1					
TPH (C10-C36)	ND		ug/kg	31900	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	66		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2240510

Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01,06 Batch: WG1668760-2								
TPH (C10-C36)	55		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	47				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01
Client ID: HA22-B2_5.0-7.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/02/22 02:32
Analyst: JM
Percent Solids: 84%

Date Collected: 07/28/22 07:30
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:44
Cleanup Method: EPA 3665A
Cleanup Date: 07/30/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/30/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.7	--	1	A
Aroclor 1221	ND		ug/kg	38.7	--	1	A
Aroclor 1232	ND		ug/kg	38.7	--	1	A
Aroclor 1242	ND		ug/kg	38.7	--	1	A
Aroclor 1248	ND		ug/kg	38.7	--	1	A
Aroclor 1254	ND		ug/kg	38.7	--	1	A
Aroclor 1260	ND		ug/kg	38.7	--	1	B
Aroclor 1262	ND		ug/kg	38.7	--	1	A
Aroclor 1268	ND		ug/kg	38.7	--	1	A
PCBs, Total	ND		ug/kg	38.7	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	71		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	76		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06
Client ID: HA22-B2_39.0-41.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/02/22 02:40
Analyst: JM
Percent Solids: 81%

Date Collected: 07/28/22 13:00
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:44
Cleanup Method: EPA 3665A
Cleanup Date: 07/30/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/30/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.8	--	1	A
Aroclor 1221	ND		ug/kg	40.8	--	1	A
Aroclor 1232	ND		ug/kg	40.8	--	1	A
Aroclor 1242	ND		ug/kg	40.8	--	1	A
Aroclor 1248	ND		ug/kg	40.8	--	1	A
Aroclor 1254	ND		ug/kg	40.8	--	1	A
Aroclor 1260	ND		ug/kg	40.8	--	1	A
Aroclor 1262	ND		ug/kg	40.8	--	1	A
Aroclor 1268	ND		ug/kg	40.8	--	1	A
PCBs, Total	ND		ug/kg	40.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	64		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	69		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/01/22 12:52
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 07/28/22 23:44
Cleanup Method: EPA 3665A
Cleanup Date: 07/30/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/30/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,06 Batch: WG1668758-1						
Aroclor 1016	ND		ug/kg	31.7	--	A
Aroclor 1221	ND		ug/kg	31.7	--	A
Aroclor 1232	ND		ug/kg	31.7	--	A
Aroclor 1242	ND		ug/kg	31.7	--	A
Aroclor 1248	ND		ug/kg	31.7	--	A
Aroclor 1254	ND		ug/kg	31.7	--	A
Aroclor 1260	ND		ug/kg	31.7	--	A
Aroclor 1262	ND		ug/kg	31.7	--	A
Aroclor 1268	ND		ug/kg	31.7	--	A
PCBs, Total	ND		ug/kg	31.7	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	72		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2240510

Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,06 Batch: WG1668758-2 WG1668758-3									
Aroclor 1016	89		86		40-140	3		30	A
Aroclor 1260	77		78		40-140	1		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		85		30-150	B
Decachlorobiphenyl	73		79		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		85		30-150	A
Decachlorobiphenyl	72		75		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2240510
Project Number: 134206-007
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01
Client ID: HA22-B2_5.0-7.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 07:30
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.28	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Arsenic, Total	3.97		mg/kg	0.455	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Barium, Total	46.3		mg/kg	0.455	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Beryllium, Total	0.300		mg/kg	0.228	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Cadmium, Total	0.578		mg/kg	0.455	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Chromium, Total	20.3		mg/kg	0.455	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Lead, Total	28.3		mg/kg	2.28	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Mercury, Total	0.092		mg/kg	0.083	--	1	07/29/22 11:15	08/03/22 08:12	EPA 7471B	97,7471B	DMB
Nickel, Total	11.1		mg/kg	1.14	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.28	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.455	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.28	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Vanadium, Total	19.8		mg/kg	0.455	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC
Zinc, Total	41.6		mg/kg	2.28	--	1	07/29/22 09:25	07/30/22 00:48	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2240510
Project Number: 134206-007
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06
Client ID: HA22-B2_39.0-41.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 13:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.34	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Arsenic, Total	7.47		mg/kg	0.467	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Barium, Total	55.3		mg/kg	0.467	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Beryllium, Total	0.579		mg/kg	0.234	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Cadmium, Total	0.831		mg/kg	0.467	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Chromium, Total	28.9		mg/kg	0.467	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Lead, Total	6.65		mg/kg	2.34	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.085	--	1	07/29/22 11:15	08/03/22 08:15	EPA 7471B	97,7471B	DMB
Nickel, Total	19.0		mg/kg	1.17	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.34	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.467	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.34	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Vanadium, Total	38.6		mg/kg	0.467	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC
Zinc, Total	46.4		mg/kg	2.34	--	1	07/29/22 09:25	07/30/22 00:53	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240510

Project Number: 134206-007 **Report Date:** 08/03/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,06 Batch: WG1668887-1										
Antimony, Total	ND		mg/kg	2.00	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	07/29/22 09:25	07/30/22 00:29	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,06 Batch: WG1668890-1										
Mercury, Total	ND		mg/kg	0.083	--	1	07/29/22 11:15	08/03/22 07:58	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,06 Batch: WG1668887-2 WG1668887-3 SRM Lot Number: D113-540								
Antimony, Total	150		149		20-250	1		30
Arsenic, Total	92		88		70-130	4		30
Barium, Total	85		82		75-125	4		30
Beryllium, Total	89		92		75-125	3		30
Cadmium, Total	84		85		75-125	1		30
Chromium, Total	88		85		70-130	3		30
Lead, Total	85		80		72-128	6		30
Nickel, Total	85		83		70-130	2		30
Selenium, Total	91		86		66-134	6		30
Silver, Total	88		85		70-131	3		30
Thallium, Total	80		80		70-130	0		30
Vanadium, Total	89		84		74-126	6		30
Zinc, Total	85		81		70-130	5		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,06 Batch: WG1668890-2 WG1668890-3 SRM Lot Number: D113-540								
Mercury, Total	98		94		60-140	4		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

SAMPLE RESULTS

Lab ID:	L2240510-01	Date Collected:	07/28/22 07:30
Client ID:	HA22-B2_5.0-7.0	Date Received:	07/28/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/29/22 14:08	1,1030	PA

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

SAMPLE RESULTS

Lab ID:	L2240510-06	Date Collected:	07/28/22 13:00
Client ID:	HA22-B2_39.0-41.0	Date Received:	07/28/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Clay
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/29/22 14:08	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-01
Client ID: HA22-B2_5.0-7.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 07:30
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	3600		umhos/cm	10	--	1	-	07/29/22 12:00	1,9050A	KS
Solids, Total	84.4		%	0.100	NA	1	-	07/29/22 10:43	121,2540G	RI
pH (H)	8.1		SU	-	NA	1	-	07/29/22 10:34	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/31/22 19:00	07/31/22 22:41	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/31/22 19:00	07/31/22 21:55	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

SAMPLE RESULTS

Lab ID: L2240510-06
Client ID: HA22-B2_39.0-41.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 13:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	740		umhos/cm	10	--	1	-	07/29/22 12:00	1,9050A	KS
Solids, Total	80.5		%	0.100	NA	1	-	07/29/22 10:43	121,2540G	RI
pH (H)	8.1		SU	-	NA	1	-	07/29/22 10:34	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	07/31/22 19:00	07/31/22 22:41	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	07/31/22 19:00	07/31/22 21:56	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2240510
Report Date: 08/03/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,06 Batch: WG1668978-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	07/31/22 19:00	07/31/22 21:50	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01,06 Batch: WG1669524-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	07/31/22 19:00	07/31/22 22:12	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2240510

Report Date: 08/03/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,06 Batch: WG1668921-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,06 Batch: WG1668932-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,06 Batch: WG1668978-2								
Sulfide, Reactive	78		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,06 Batch: WG1669524-2								
Cyanide, Reactive	82		-		30-125	-		40

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240510-01A	Vial MeOH preserved	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2240510-01B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2240510-01C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2240510-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2240510-01E	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2240510-01F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2240510-01G	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240510-01H	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240510-02A	Vial MeOH preserved	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2240510-02B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-02C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-02D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		HOLD-WETCHEM()
L2240510-02E	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		HOLD-METAL(180)
L2240510-02F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		HOLD-8260HLW(14),HOLD-WETCHEM()
L2240510-02G	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2240510-02H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		HOLD-WETCHEM(),HOLD-PETRO(14),HOLD-8270(14),HOLD-8082(14)

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240510-02I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		HOLD-WETCHEM(),HOLD-PETRO(14),HOLD-8270(14),HOLD-8082(14)
L2240510-03A	Vial MeOH preserved	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2240510-03B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-03C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-03D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		HOLD-WETCHEM()
L2240510-03E	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		HOLD-METAL(180)
L2240510-03F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		HOLD-8260HLW(14),HOLD-WETCHEM()
L2240510-03G	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2240510-03H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2240510-03I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2240510-04A	Vial MeOH preserved	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2240510-04B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-04C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-04D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		HOLD-WETCHEM()
L2240510-04E	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		HOLD-METAL(180)
L2240510-04F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		HOLD-8260HLW(14),HOLD-WETCHEM()
L2240510-04G	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2240510-04H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2240510-04I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2240510-05A	Vial MeOH preserved	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2240510-05B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-05C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	HOLD-8260HLW(14)
L2240510-05D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		HOLD-WETCHEM()
L2240510-05E	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		HOLD-METAL(180)
L2240510-05F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		HOLD-8260HLW(14),HOLD-WETCHEM()
L2240510-05G	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240510
Report Date: 08/03/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240510-05H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2240510-05I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		HOLD-PETRO(14),HOLD-WETCHEM(),HOLD-8270(14),HOLD-8082(14)
L2240510-06A	Vial MeOH preserved	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2240510-06B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2240510-06C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2240510-06D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2240510-06E	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2240510-06F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2240510-06G	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240510-06H	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240510
Project Number:	134206-007	**Report Date:**	08/03/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

CHAIN OF CUSTODY

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 7/28/22

ALPHA Job # L2240510

Westborough, MA 01581, 8 Walkup Dr., TEL: 508-898-9220, FAX: 508-898-9193
Mansfield, MA 02048, 320 Forbes Blvd, TEL: 508-822-9300, FAX: 508-822-3288

Project Information

Project Name:	Matthews Arena - Northeastern University
Project Location:	Boston, MA
Project #	134206-007
(Use Project name as Project #) ☐	
Project Manager:	Kaitlyn Tripp
ALPHAQuote #:	

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client:	NEU
H&A Address:	465 Medford St, Suite 2200
	Boston, MA 02129
H&A Phone:	617.886.7358
H&A Fax:	
H&A Email:	kscalise, kingraham

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration: ☐ Done ☐ Lab to do
Preservation ☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
40510-01	HA22-B2_5.0-7.0	7/28/2022	0730	Soil F	MJD	5-7	x	x	x	x	x	x	x	x		8
02	* HA22-TP4_0.0-5.0	7/28/2022	08 00	Soil F	JDB	0-5	X	X	X	X	X	X	X	X	* HOLD	9
03	* HA22-TP4_5.0-11.0	7/28/2022	0910	Soil F	JDB	5-11	X	X	X	X	X	X	X	X	* HOLD	9
04	* HA22-TP5_0.0-5.0	7/28/2022	1115	Soil F	JDB	0-5	X	X	X	X	X	X	X	X	* HOLD	9
05	* HA22-TP5_5.0-10.0	7/28/2022	1215	Soil F	JDB	5-10	X	X	X	X	X	X	X	X	* HOLD	9
06	HA22-B2_39.0-41.0	7/28/2022	1300	Soil N	MJD	39-41	X	X	X	X	X	X	X	X		8
															52 TOTAL	

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, K/E = Zn Ac/NaOH, O = Other

Container Code: P = Plastic, A = Amber Glass, V = Vial, G = Glass, B = Bacteria Cup, C = Cube, O = Other, E = Encore, D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1	2	3	4	5	6	7	8
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/28/2022 1522	[signature] AAL	7/28/22 1522
[signature] AAL	7/28/22 1611	[signature]	7/28/22 1611

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2240510
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1670225-5	**Lab File ID**	: V27220729B04
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 07/29/22 10:15

Client Sample No.	Lab Sample ID	Analysis Date
WG1670225-3LCS	WG1670225-3	07/29/22 09:35
WG1670225-4LCSD	WG1670225-4	07/29/22 09:55
HA22-B2_5.0-7.0	L2240510-01	07/29/22 15:35
HA22-B2_39.0-41.0	L2240510-06	07/29/22 15:55

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240510
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA127	Calibration Date	: 07/29/22 09:15
Lab File ID	: V27220729B01	Init. Calib. Date(s)	: 07/06/22 07/06/22
Sample No	: WG1670225-2	Init. Calib. Times	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	69	0
Dichlorodifluoromethane	0.149	0.222	-	-49*	20	99	0
Chloromethane	0.16	0.209	-	-30.6*	20	89	0
Vinyl chloride	0.185	0.226	-	-22.2*	20	80	0
Bromomethane	40	50.628	-	-26.6*	20	85	0
Chloroethane	0.122	0.15	-	-23*	20	85	0
Trichlorofluoromethane	0.316	0.349	-	-10.4	20	70	0
Ethyl ether	0.116	0.12	-	-3.4	20	75	0
1,1-Dichloroethene	0.198	0.211	-	-6.6	20	69	0
Carbon disulfide	0.553	0.619	-	-11.9	20	76	0
Freon-113	0.209	0.22	-	-5.3	20	69	0
Acrolein	0.023	0.026	-	-13	20	78	0
Methylene chloride	40	42.072	-	-5.2	20	72	0
Acetone	40	48.961	-	-22.4*	20	78	0
trans-1,2-Dichloroethene	0.249	0.242	-	2.8	20	67	0
Methyl acetate	0.117	0.118	-	-0.9	20	71	-.01
Methyl tert-butyl ether	0.608	0.568	-	6.6	20	64	0
tert-Butyl alcohol	0.031	0.023	-	25.8*	20	57	-.01
Diisopropyl ether	0.613	0.597	-	2.6	20	67	0
1,1-Dichloroethane	0.378	0.392	-	-3.7	20	71	0
Halothane	0.198	0.184	-	7.1	20	64	-.02
Acrylonitrile	40	40.738	-	-1.8	20	69	0
Ethyl tert-butyl ether	0.67	0.639	-	4.6	20	64	-.01
Vinyl acetate	0.465	0.43	-	7.5	20	62	-.01
cis-1,2-Dichloroethene	0.289	0.278	-	3.8	20	68	0
2,2-Dichloropropane	0.369	0.374	-	-1.4	20	68	-.01
Bromochloromethane	0.143	0.137	-	4.2	20	65	-.01
Cyclohexane	0.325	0.326	-	-0.3	20	66	0
Chloroform	0.454	0.435	-	4.2	20	67	0
Ethyl acetate	0.183	0.17	-	7.1	20	63	0
Carbon tetrachloride	0.337	0.317	-	5.9	20	63	0
Tetrahydrofuran	40	39.575	-	1.1	20	67	0
Dibromofluoromethane	0.253	0.252	-	0.4	20	69	0
1,1,1-Trichloroethane	0.362	0.359	-	0.8	20	65	0
2-Butanone	0.084	0.081	-	3.6	20	68	-.01
1,1-Dichloropropene	0.293	0.301	-	-2.7	20	65	0
Benzene	0.968	0.971	-	-0.3	20	69	-.01
tert-Amyl methyl ether	0.7	0.623	-	11	20	61	0
1,2-Dichloroethane-d4	0.246	0.255	-	-3.7	20	72	-.01
1,2-Dichloroethane	0.299	0.298	-	0.3	20	68	0
Methyl cyclohexane	0.415	0.402	-	3.1	20	63	0
Trichloroethene	0.273	0.266	-	2.6	20	67	0
Dibromomethane	0.157	0.149	-	5.1	20	65	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240510
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA127	Calibration Date	: 07/29/22 09:15
Lab File ID	: V27220729B01	Init. Calib. Date(s)	: 07/06/22 07/06/22
Sample No	: WG1670225-2	Init. Calib. Times	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.232	0.232	-	0	20	68	-.01
2-Chloroethyl vinyl ether	0.149	0.128	-	14.1	20	59	0
Bromodichloromethane	0.361	0.333	-	7.8	20	65	0
1,4-Dioxane	0.00271	0.00222*	-	18.1	20	55	0
cis-1,3-Dichloropropene	0.405	0.398	-	1.7	20	65	0
Chlorobenzene-d5	1	1	-	0	20	70	0
Toluene-d8	1.259	1.249	-	0.8	20	70	0
Toluene	0.871	0.789	-	9.4	20	68	0
4-Methyl-2-pentanone	0.106	0.091	-	14.2	20	60	0
Tetrachloroethene	0.405	0.389	-	4	20	63	0
trans-1,3-Dichloropropene	0.468	0.438	-	6.4	20	64	0
Ethyl methacrylate	0.393	0.346	-	12	20	61	0
1,1,2-Trichloroethane	0.23	0.22	-	4.3	20	68	0
Chlorodibromomethane	0.359	0.318	-	11.4	20	61	0
1,3-Dichloropropane	0.456	0.446	-	2.2	20	67	0
1,2-Dibromoethane	0.293	0.269	-	8.2	20	63	0
2-Hexanone	0.181	0.146	-	19.3	20	59	0
Chlorobenzene	0.929	0.907	-	2.4	20	66	0
Ethylbenzene	1.506	1.442	-	4.2	20	66	0
1,1,1,2-Tetrachloroethane	0.359	0.334	-	7	20	64	0
p/m Xylene	0.604	0.58	-	4	20	66	0
o Xylene	0.579	0.565	-	2.4	20	66	0
Styrene	0.956	0.931	-	2.6	20	66	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	72	0
Bromoform	0.483	0.396	-	18	20	57	0
Isopropylbenzene	2.743	2.551	-	7	20	64	0
4-Bromofluorobenzene	0.828	0.783	-	5.4	20	69	0
Bromobenzene	0.809	0.726	-	10.3	20	64	0
n-Propylbenzene	3.053	3.01	-	1.4	20	68	0
1,4-Dichlorobutane	0.712	0.714	-	-0.3	20	73	0
1,1,2,2-Tetrachloroethane	0.632	0.594	-	6	20	69	0
4-Ethyltoluene	2.66	2.553	-	4	20	67	0
2-Chlorotoluene	1.914	1.781	-	6.9	20	67	0
1,3,5-Trimethylbenzene	2.301	2.198	-	4.5	20	66	0
1,2,3-Trichloropropane	0.519	0.481	-	7.3	20	66	0
trans-1,4-Dichloro-2-buten	0.178	0.161	-	9.6	20	69	0
4-Chlorotoluene	1.947	1.881	-	3.4	20	68	0
tert-Butylbenzene	2.057	1.896	-	7.8	20	64	0
1,2,4-Trimethylbenzene	2.305	2.164	-	6.1	20	66	0
sec-Butylbenzene	2.908	2.839	-	2.4	20	66	0
p-Isopropyltoluene	2.585	2.471	-	4.4	20	65	0
1,3-Dichlorobenzene	1.487	1.419	-	4.6	20	68	0
1,4-Dichlorobenzene	1.609	1.413	-	12.2	20	67	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2240510
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Instrument ID	: VOA127	**Calibration Date**	: 07/29/22 09:15
Lab File ID	: V27220729B01	**Init. Calib. Date(s)**	: 07/06/22 07/06/22
Sample No	: WG1670225-2	**Init. Calib. Times**	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.572	1.48	-	5.9	20	66	0
n-Butylbenzene	2.13	2.193	-	-3	20	70	0
1,2-Dichlorobenzene	1.406	1.328	-	5.5	20	67	0
1,2,4,5-Tetramethylbenzene	2.498	2.224	-	11	20	62	0
1,2-Dibromo-3-chloropropan	0.135	0.108	-	20	20	57	0
1,3,5-Trichlorobenzene	1.218	1.161	-	4.7	20	68	0
Hexachlorobutadiene	0.675	0.624	-	7.6	20	64	0
1,2,4-Trichlorobenzene	1.111	1.016	-	8.6	20	66	0
Naphthalene	2.306	1.923	-	16.6	20	61	0
1,2,3-Trichlorobenzene	1.033	0.942	-	8.8	20	65	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2240888
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/18/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2240888-01	HA22-TP3_0.0-5.0	SOIL	BOSTON, MA	07/29/22 07:35	07/29/22
L2240888-02	HA22-TP3_5.0-10.0	SOIL	BOSTON, MA	07/29/22 09:00	07/29/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

The analyses performed were specified by the client.

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2240888-01 and -02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromochloromethane (0.0998), bromodichloromethane (0.2690), 1,4-dioxane (0.0013), 1,1,2-trichloroethane (0.1901)

Average Response Factor: 1,4-dioxane

L2240888-01 and -02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2240888-01 and -02: The initial calibration utilized a quadratic fit for 2,4-Dinitrophenol.

PCBs

L2240888-01: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 08/18/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2240888

Report Date: 08/18/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1674332-3	Vinyl chloride	LCS	66	70-130	01-02	potential low bias
8260D	Batch QC	WG1674332-3	Dichlorodifluoromethane	LCS	46	70-130	01-02	potential low bias
8260D	Batch QC	WG1674332-4	Vinyl chloride	LCSD	66	70-130	01-02	potential low bias
8260D	Batch QC	WG1674332-4	Dichlorodifluoromethane	LCSD	46	70-130	01-02	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1674251-3	2,4-Dinitrophenol	LCSD	21	30-130	01-02	potential low bias
8270E	Batch QC	WG1674251-3	2,4-Dinitrophenol	LCSD	44	30	01-02	non-directional bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01
Client ID: HA22-TP3_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 07:35
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/11/22 11:41
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.3	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.9	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	1.2	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.63	--	1
Chlorobenzene	ND		ug/kg	0.63	--	1
Trichlorofluoromethane	ND		ug/kg	5.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.63	--	1
Bromodichloromethane	ND		ug/kg	0.63	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.63	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.63	--	1
1,1-Dichloropropene	ND		ug/kg	0.63	--	1
Bromoform	ND		ug/kg	5.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.63	--	1
Benzene	ND		ug/kg	0.63	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	5.0	--	1
Bromomethane	ND		ug/kg	2.5	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.5	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01 Date Collected: 07/29/22 07:35

Client ID: HA22-TP3_0.0-5.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.63	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	--	1
Methyl tert butyl ether	ND		ug/kg	2.5	--	1
p/m-Xylene	ND		ug/kg	2.5	--	1
o-Xylene	ND		ug/kg	1.2	--	1
Xylenes, Total	ND		ug/kg	1.2	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	2.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.5	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	ND		ug/kg	31	--	1
Carbon disulfide	ND		ug/kg	12	--	1
Methyl ethyl ketone	ND		ug/kg	12	--	1
Methyl isobutyl ketone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	2.5	--	1
Tetrahydrofuran	ND		ug/kg	5.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.5	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.63	--	1
Bromobenzene	ND		ug/kg	2.5	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.5	--	1
o-Chlorotoluene	ND		ug/kg	2.5	--	1
p-Chlorotoluene	ND		ug/kg	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.8	--	1
Hexachlorobutadiene	ND		ug/kg	5.0	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	5.0	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01 Date Collected: 07/29/22 07:35

Client ID: HA22-TP3_0.0-5.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.5	--	1
Diethyl ether	ND		ug/kg	2.5	--	1
Diisopropyl Ether	ND		ug/kg	2.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.5	--	1
1,4-Dioxane	ND		ug/kg	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02
Client ID: HA22-TP3_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 09:00
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/11/22 12:19
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	7.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.4	--	1
Chloroform	ND		ug/kg	2.1	--	1
Carbon tetrachloride	ND		ug/kg	1.4	--	1
1,2-Dichloropropane	ND		ug/kg	1.4	--	1
Dibromochloromethane	ND		ug/kg	1.4	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	--	1
Tetrachloroethene	ND		ug/kg	0.70	--	1
Chlorobenzene	ND		ug/kg	0.70	--	1
Trichlorofluoromethane	ND		ug/kg	5.6	--	1
1,2-Dichloroethane	ND		ug/kg	1.4	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.70	--	1
Bromodichloromethane	ND		ug/kg	0.70	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.70	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.70	--	1
1,1-Dichloropropene	ND		ug/kg	0.70	--	1
Bromoform	ND		ug/kg	5.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.70	--	1
Benzene	ND		ug/kg	0.70	--	1
Toluene	ND		ug/kg	1.4	--	1
Ethylbenzene	ND		ug/kg	1.4	--	1
Chloromethane	ND		ug/kg	5.6	--	1
Bromomethane	ND		ug/kg	2.8	--	1
Vinyl chloride	ND		ug/kg	1.4	--	1
Chloroethane	ND		ug/kg	2.8	--	1
1,1-Dichloroethene	ND		ug/kg	1.4	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02 Date Collected: 07/29/22 09:00

Client ID: HA22-TP3_5.0-10.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.70	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.8	--	1
Methyl tert butyl ether	ND		ug/kg	2.8	--	1
p/m-Xylene	ND		ug/kg	2.8	--	1
o-Xylene	ND		ug/kg	1.4	--	1
Xylenes, Total	ND		ug/kg	1.4	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.4	--	1
Dibromomethane	ND		ug/kg	2.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.8	--	1
Styrene	ND		ug/kg	1.4	--	1
Dichlorodifluoromethane	ND		ug/kg	14	--	1
Acetone	ND		ug/kg	35	--	1
Carbon disulfide	ND		ug/kg	14	--	1
Methyl ethyl ketone	ND		ug/kg	14	--	1
Methyl isobutyl ketone	ND		ug/kg	14	--	1
2-Hexanone	ND		ug/kg	14	--	1
Bromochloromethane	ND		ug/kg	2.8	--	1
Tetrahydrofuran	ND		ug/kg	5.6	--	1
2,2-Dichloropropane	ND		ug/kg	2.8	--	1
1,2-Dibromoethane	ND		ug/kg	1.4	--	1
1,3-Dichloropropane	ND		ug/kg	2.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.70	--	1
Bromobenzene	ND		ug/kg	2.8	--	1
n-Butylbenzene	ND		ug/kg	1.4	--	1
sec-Butylbenzene	ND		ug/kg	1.4	--	1
tert-Butylbenzene	ND		ug/kg	2.8	--	1
o-Chlorotoluene	ND		ug/kg	2.8	--	1
p-Chlorotoluene	ND		ug/kg	2.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.2	--	1
Hexachlorobutadiene	ND		ug/kg	5.6	--	1
Isopropylbenzene	ND		ug/kg	1.4	--	1
p-Isopropyltoluene	ND		ug/kg	1.4	--	1
Naphthalene	ND		ug/kg	5.6	--	1
n-Propylbenzene	ND		ug/kg	1.4	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02 Date Collected: 07/29/22 09:00

Client ID: HA22-TP3_5.0-10.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.8	--	1
Diethyl ether	ND		ug/kg	2.8	--	1
Diisopropyl Ether	ND		ug/kg	2.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.8	--	1
1,4-Dioxane	ND		ug/kg	110	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/11/22 11:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1674332-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/11/22 11:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1674332-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/11/22 11:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1674332-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1674332-3 WG1674332-4								
Methylene chloride	98		99		70-130	1		20
1,1-Dichloroethane	102		104		70-130	2		20
Chloroform	103		103		70-130	0		20
Carbon tetrachloride	95		96		70-130	1		20
1,2-Dichloropropane	108		109		70-130	1		20
Dibromochloromethane	101		103		70-130	2		20
1,1,2-Trichloroethane	98		99		70-130	1		20
Tetrachloroethene	94		94		70-130	0		20
Chlorobenzene	95		95		70-130	0		20
Trichlorofluoromethane	89		90		70-130	1		20
1,2-Dichloroethane	101		102		70-130	1		20
1,1,1-Trichloroethane	96		98		70-130	2		20
Bromodichloromethane	107		108		70-130	1		20
trans-1,3-Dichloropropene	99		100		70-130	1		20
cis-1,3-Dichloropropene	110		110		70-130	0		20
1,1-Dichloropropene	97		98		70-130	1		20
Bromoform	83		85		70-130	2		20
1,1,2,2-Tetrachloroethane	92		93		70-130	1		20
Benzene	101		102		70-130	1		20
Toluene	92		93		70-130	1		20
Ethylbenzene	93		93		70-130	0		20
Chloromethane	70		70		70-130	0		20
Bromomethane	84		84		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1674332-3 WG1674332-4								
Vinyl chloride	**66**	Q	**66**	Q	70-130	0		20
Chloroethane	94		93		70-130	1		20
1,1-Dichloroethene	95		95		70-130	0		20
trans-1,2-Dichloroethene	99		100		70-130	1		20
Trichloroethene	105		104		70-130	1		20
1,2-Dichlorobenzene	94		94		70-130	0		20
1,3-Dichlorobenzene	93		94		70-130	1		20
1,4-Dichlorobenzene	94		95		70-130	1		20
Methyl tert butyl ether	102		103		70-130	1		20
p/m-Xylene	92		92		70-130	0		20
o-Xylene	93		94		70-130	1		20
cis-1,2-Dichloroethene	103		102		70-130	1		20
Dibromomethane	101		103		70-130	2		20
1,2,3-Trichloropropane	95		95		70-130	0		20
Styrene	86		86		70-130	0		20
Dichlorodifluoromethane	**46**	Q	**46**	Q	70-130	0		20
Acetone	130		128		70-130	2		20
Carbon disulfide	83		84		70-130	1		20
Methyl ethyl ketone	108		110		70-130	2		20
Methyl isobutyl ketone	102		105		70-130	3		20
2-Hexanone	102		104		70-130	2		20
Bromochloromethane	107		108		70-130	1		20
Tetrahydrofuran	101		103		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1674332-3 WG1674332-4								
2,2-Dichloropropane	101		101		70-130	0		20
1,2-Dibromoethane	98		100		70-130	2		20
1,3-Dichloropropane	97		98		70-130	1		20
1,1,1,2-Tetrachloroethane	98		99		70-130	1		20
Bromobenzene	95		96		70-130	1		20
n-Butylbenzene	89		90		70-130	1		20
sec-Butylbenzene	91		91		70-130	0		20
tert-Butylbenzene	90		90		70-130	0		20
o-Chlorotoluene	89		89		70-130	0		20
p-Chlorotoluene	92		93		70-130	1		20
1,2-Dibromo-3-chloropropane	95		98		70-130	3		20
Hexachlorobutadiene	102		106		70-130	4		20
Isopropylbenzene	89		89		70-130	0		20
p-Isopropyltoluene	91		92		70-130	1		20
Naphthalene	96		100		70-130	4		20
n-Propylbenzene	90		90		70-130	0		20
1,2,3-Trichlorobenzene	101		106		70-130	5		20
1,2,4-Trichlorobenzene	99		103		70-130	4		20
1,3,5-Trimethylbenzene	90		90		70-130	0		20
1,2,4-Trimethylbenzene	92		92		70-130	0		20
Diethyl ether	104		104		70-130	0		20
Diisopropyl Ether	110		110		70-130	0		20
Ethyl-Tert-Butyl-Ether	106		107		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1674332-3 WG1674332-4								
Tertiary-Amyl Methyl Ether	104		105		70-130	1		20
1,4-Dioxane	98		105		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	94		93		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01
Client ID: HA22-TP3_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 07:35
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/17/22 20:58
Analyst: WR
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 08/11/22 17:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	390		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	77	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	77	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	77	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	77	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	6000		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	77	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	77	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	77	--	1
Benzo(a)anthracene	3400		ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01 Date Collected: 07/29/22 07:35

Client ID: HA22-TP3_0.0-5.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	3200		ug/kg	150	--	1
Benzo(b)fluoranthene	4700		ug/kg	110	--	1
Benzo(k)fluoranthene	1300		ug/kg	110	--	1
Chrysene	3900		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	1000		ug/kg	110	--	1
Benzo(ghi)perylene	2000		ug/kg	150	--	1
Fluorene	420		ug/kg	180	--	1
Phenanthrene	4600		ug/kg	110	--	1
Dibenzo(a,h)anthracene	500		ug/kg	77	--	1
Indeno(1,2,3-cd)pyrene	2400		ug/kg	150	--	1
Pyrene	5000		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	200		ug/kg	180	--	1
2-Methylnaphthalene	81		ug/kg	77	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	77	--	1
2-Chlorophenol	ND		ug/kg	77	--	1
2,4-Dichlorophenol	ND		ug/kg	77	--	1
2,4-Dimethylphenol	ND		ug/kg	77	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	37	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01 Date Collected: 07/29/22 07:35

Client ID: HA22-TP3_0.0-5.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	89		30-130
2-Fluorobiphenyl	79		30-130
2,4,6-Tribromophenol	84		30-130
4-Terphenyl-d14	66		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02
Client ID: HA22-TP3_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 09:00
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/17/22 20:34
Analyst: WR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 08/11/22 17:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	720		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	78	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	78	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	78	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	78	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	6400		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	78	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	78	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	260		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	78	--	1
Benzo(a)anthracene	3700		ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02 Date Collected: 07/29/22 09:00

Client ID: HA22-TP3_5.0-10.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	3100		ug/kg	150	--	1
Benzo(b)fluoranthene	3900		ug/kg	110	--	1
Benzo(k)fluoranthene	1200		ug/kg	110	--	1
Chrysene	3500		ug/kg	110	--	1
Acenaphthylene	170		ug/kg	150	--	1
Anthracene	1800		ug/kg	110	--	1
Benzo(ghi)perylene	1800		ug/kg	150	--	1
Fluorene	840		ug/kg	190	--	1
Phenanthrene	5800		ug/kg	110	--	1
Dibenzo(a,h)anthracene	500		ug/kg	78	--	1
Indeno(1,2,3-cd)pyrene	2100		ug/kg	150	--	1
Pyrene	5400		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	450		ug/kg	190	--	1
2-Methylnaphthalene	220		ug/kg	78	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	78	--	1
2-Chlorophenol	ND		ug/kg	78	--	1
2,4-Dichlorophenol	ND		ug/kg	78	--	1
2,4-Dimethylphenol	ND		ug/kg	78	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	890	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	53		ug/kg	37	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02 Date Collected: 07/29/22 09:00

Client ID: HA22-TP3_5.0-10.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		30-130
Phenol-d6	80		30-130
Nitrobenzene-d5	84		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	98		30-130
4-Terphenyl-d14	76		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/15/22 08:30
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 08/11/22 17:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1674251-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/15/22 08:30
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 08/11/22 17:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1674251-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/15/22 08:30
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 08/11/22 17:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1674251-1					
Biphenyl	ND		ug/kg	32	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	86		30-130
Phenol-d6	83		30-130
Nitrobenzene-d5	73		30-130
2-Fluorobiphenyl	86		30-130
2,4,6-Tribromophenol	94		30-130
4-Terphenyl-d14	88		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1674251-2 WG1674251-3								
Acenaphthene	85		84		40-140	1		30
1,2,4-Trichlorobenzene	81		82		40-140	1		30
Hexachlorobenzene	90		90		40-140	0		30
Bis(2-chloroethyl)ether	73		74		40-140	1		30
2-Chloronaphthalene	85		85		40-140	0		30
1,2-Dichlorobenzene	76		77		40-140	1		30
1,3-Dichlorobenzene	75		76		40-140	1		30
1,4-Dichlorobenzene	74		76		40-140	3		30
3,3'-Dichlorobenzidine	79		77		40-140	3		30
2,4-Dinitrotoluene	92		91		40-140	1		30
2,6-Dinitrotoluene	90		89		40-140	1		30
Azobenzene	84		84		40-140	0		30
Fluoranthene	89		88		40-140	1		30
4-Bromophenyl phenyl ether	91		90		40-140	1		30
Bis(2-chloroisopropyl)ether	59		60		40-140	2		30
Bis(2-chloroethoxy)methane	77		79		40-140	3		30
Hexachlorobutadiene	81		81		40-140	0		30
Hexachloroethane	74		76		40-140	3		30
Isophorone	74		75		40-140	1		30
Naphthalene	80		81		40-140	1		30
Nitrobenzene	74		76		40-140	3		30
Bis(2-ethylhexyl)phthalate	98		95		40-140	3		30
Butyl benzyl phthalate	89		87		40-140	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1674251-2 WG1674251-3								
Di-n-butylphthalate	88		87		40-140	1		30
Di-n-octylphthalate	94		93		40-140	1		30
Diethyl phthalate	90		88		40-140	2		30
Dimethyl phthalate	90		88		40-140	2		30
Benzo(a)anthracene	93		91		40-140	2		30
Benzo(a)pyrene	95		92		40-140	3		30
Benzo(b)fluoranthene	93		90		40-140	3		30
Benzo(k)fluoranthene	95		92		40-140	3		30
Chrysene	93		90		40-140	3		30
Acenaphthylene	89		88		40-140	1		30
Anthracene	86		85		40-140	1		30
Benzo(ghi)perylene	88		84		40-140	5		30
Fluorene	90		88		40-140	2		30
Phenanthrene	85		83		40-140	2		30
Dibenzo(a,h)anthracene	89		84		40-140	6		30
Indeno(1,2,3-cd)pyrene	96		93		40-140	3		30
Pyrene	89		87		40-140	2		30
Aniline	66		67		40-140	2		30
4-Chloroaniline	64		62		40-140	3		30
Dibenzofuran	88		87		40-140	1		30
2-Methylnaphthalene	85		87		40-140	2		30
Acetophenone	75		76		40-140	1		30
2,4,6-Trichlorophenol	90		90		30-130	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1674251-2 WG1674251-3								
2-Chlorophenol	82		85		30-130	4		30
2,4-Dichlorophenol	91		92		30-130	1		30
2,4-Dimethylphenol	81		85		30-130	5		30
2-Nitrophenol	78		81		30-130	4		30
4-Nitrophenol	92		91		30-130	1		30
2,4-Dinitrophenol	33		**21**	Q	30-130	**44**	Q	30
Pentachlorophenol	60		57		30-130	5		30
Phenol	82		82		30-130	0		30
2-Methylphenol	84		86		30-130	2		30
3-Methylphenol/4-Methylphenol	84		84		30-130	0		30
2,4,5-Trichlorophenol	94		94		30-130	0		30
Pyridine	49		50		30-130	2		30
Biphenyl	83		83		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	89		90		30-130
Phenol-d6	89		90		30-130
Nitrobenzene-d5	79		79		30-130
2-Fluorobiphenyl	90		90		30-130
2,4,6-Tribromophenol	98		96		30-130
4-Terphenyl-d14	92		90		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01
Client ID: HA22-TP3_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 07:35
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/12/22 18:04
Analyst: MC
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 08/11/22 17:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	226000		ug/kg	36700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	64		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2240888
Project Number: 134206-007
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02
Client ID: HA22-TP3_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 09:00
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/12/22 18:29
Analyst: MC
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 08/11/22 17:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	350000		ug/kg	36400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	66		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/11/22 12:51
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 08/10/22 23:26

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-02 Batch: WG1673836-1					
TPH (C10-C36)	ND		ug/kg	32200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	78		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2240888

Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-02 Batch: WG1673836-2								
TPH (C10-C36)	92		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	69				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2240888
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01
Client ID: HA22-TP3_0.0-5.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/13/22 10:12
Analyst: JM
Percent Solids: 91%

Date Collected: 07/29/22 07:35
Date Received: 07/29/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/12/22 16:44
Cleanup Method: EPA 3665A
Cleanup Date: 08/13/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/13/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	96.5	--	1	A
Aroclor 1221	ND		ug/kg	96.5	--	1	A
Aroclor 1232	ND		ug/kg	96.5	--	1	A
Aroclor 1242	ND		ug/kg	96.5	--	1	A
Aroclor 1248	ND		ug/kg	96.5	--	1	A
Aroclor 1254	ND		ug/kg	96.5	--	1	A
Aroclor 1260	ND		ug/kg	96.5	--	1	A
Aroclor 1262	ND		ug/kg	96.5	--	1	A
Aroclor 1268	ND		ug/kg	96.5	--	1	A
PCBs, Total	ND		ug/kg	96.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	81		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2240888
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02
Client ID: HA22-TP3_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 09:00
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/13/22 10:22
Analyst: JM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 08/12/22 16:44
Cleanup Method: EPA 3665A
Cleanup Date: 08/13/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/13/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.6	--	1	A
Aroclor 1221	ND		ug/kg	36.6	--	1	A
Aroclor 1232	ND		ug/kg	36.6	--	1	A
Aroclor 1242	ND		ug/kg	36.6	--	1	A
Aroclor 1248	ND		ug/kg	36.6	--	1	A
Aroclor 1254	ND		ug/kg	36.6	--	1	B
Aroclor 1260	ND		ug/kg	36.6	--	1	A
Aroclor 1262	ND		ug/kg	36.6	--	1	A
Aroclor 1268	ND		ug/kg	36.6	--	1	A
PCBs, Total	ND		ug/kg	36.6	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	71		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	58		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/13/22 11:07
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 08/12/22 00:46
Cleanup Method: EPA 3665A
Cleanup Date: 08/12/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/13/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG1674351-1						
Aroclor 1016	ND		ug/kg	32.8	--	A
Aroclor 1221	ND		ug/kg	32.8	--	A
Aroclor 1232	ND		ug/kg	32.8	--	A
Aroclor 1242	ND		ug/kg	32.8	--	A
Aroclor 1248	ND		ug/kg	32.8	--	A
Aroclor 1254	ND		ug/kg	32.8	--	A
Aroclor 1262	ND		ug/kg	32.8	--	A
Aroclor 1268	ND		ug/kg	32.8	--	A
Aroclor 1260	ND		ug/kg	32.8	--	B
PCBs, Total	ND		ug/kg	32.8	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	59		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2240888

Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG1674351-2 WG1674351-3									
Aroclor 1016	73		69		40-140	6		30	A
Aroclor 1260	68		67		40-140	1		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		61		30-150	B
Decachlorobiphenyl	56		56		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		62		30-150	A
Decachlorobiphenyl	62		61		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01 Date Collected: 07/29/22 07:35

Client ID: HA22-TP3_0.0-5.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.09	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Arsenic, Total	9.00		mg/kg	0.418	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Barium, Total	249		mg/kg	0.418	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Beryllium, Total	0.290		mg/kg	0.209	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Cadmium, Total	1.38		mg/kg	0.418	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Chromium, Total	21.1		mg/kg	0.418	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Lead, Total	1010		mg/kg	2.09	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Mercury, Total	0.194		mg/kg	0.073	--	1	08/12/22 00:18	08/12/22 14:19	EPA 7471B	97,7471B	DMB
Nickel, Total	23.6		mg/kg	1.04	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Selenium, Total	ND		mg/kg	2.09	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Silver, Total	ND		mg/kg	0.418	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Thallium, Total	ND		mg/kg	2.09	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Vanadium, Total	92.6		mg/kg	0.418	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF
Zinc, Total	403		mg/kg	2.09	--	1	08/11/22 23:05	08/16/22 13:33	EPA 3050B	97,6010D	JF

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02 Date Collected: 07/29/22 09:00

Client ID: HA22-TP3_5.0-10.0 Date Received: 07/29/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.25	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Arsenic, Total	4.70		mg/kg	0.450	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Barium, Total	87.2		mg/kg	0.450	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Beryllium, Total	0.299		mg/kg	0.225	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Cadmium, Total	ND		mg/kg	0.450	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Chromium, Total	10.9		mg/kg	0.450	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Lead, Total	194		mg/kg	2.25	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Mercury, Total	0.221		mg/kg	0.080	--	1	08/12/22 00:18	08/12/22 14:23	EPA 7471B	97,7471B	DMB
Nickel, Total	15.8		mg/kg	1.12	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Selenium, Total	ND		mg/kg	2.25	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Silver, Total	ND		mg/kg	0.450	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Thallium, Total	ND		mg/kg	2.25	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Vanadium, Total	100		mg/kg	0.450	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF
Zinc, Total	155		mg/kg	2.25	--	1	08/11/22 23:05	08/16/22 13:36	EPA 3050B	97,6010D	JF

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2240888

Project Number: 134206-007 **Report Date:** 08/18/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1674098-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Arsenic, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Barium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Beryllium, Total	ND		mg/kg	0.200	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Cadmium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Chromium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Lead, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Nickel, Total	ND		mg/kg	1.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Selenium, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Silver, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Thallium, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Vanadium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Zinc, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1674103-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/12/22 00:18	08/12/22 13:53	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1674098-2 WG1674098-3 SRM Lot Number: D113-540								
Antimony, Total	126		116		20-250	8		30
Arsenic, Total	96		96		70-130	0		30
Barium, Total	93		92		75-125	1		30
Beryllium, Total	99		99		75-125	0		30
Cadmium, Total	93		87		75-125	7		30
Chromium, Total	95		88		70-130	8		30
Lead, Total	92		91		72-128	1		30
Nickel, Total	94		90		70-130	4		30
Selenium, Total	96		96		66-134	0		30
Silver, Total	97		88		70-131	10		30
Thallium, Total	92		91		70-130	1		30
Vanadium, Total	95		89		74-126	7		30
Zinc, Total	93		88		70-130	6		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1674103-2 WG1674103-3 SRM Lot Number: D113-540								
Mercury, Total	91		97		60-140	6		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

SAMPLE RESULTS

Lab ID:	L2240888-01	Date Collected:	07/29/22 07:35
Client ID:	HA22-TP3_0.0-5.0	Date Received:	07/29/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/11/22 15:49	1,1030	MD

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

SAMPLE RESULTS

Lab ID:	L2240888-02	Date Collected:	07/29/22 09:00
Client ID:	HA22-TP3_5.0-10.0	Date Received:	07/29/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/11/22 15:49	1,1030	MD

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-01
Client ID: HA22-TP3_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 07:35
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	280		umhos/cm	10	--	1	-	08/12/22 11:49	1,9050A	KS
Solids, Total	90.6		%	0.100	NA	1	-	08/11/22 12:32	121,2540G	RI
pH (H)	8.4		SU	-	NA	1	-	08/11/22 09:47	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/11/22 09:35	08/11/22 12:01	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/11/22 09:35	08/11/22 11:22	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

SAMPLE RESULTS

Lab ID: L2240888-02
Client ID: HA22-TP3_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 09:00
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	280		umhos/cm	10	--	1	-	08/11/22 13:12	1,9050A	KS
Solids, Total	87.5		%	0.100	NA	1	-	08/11/22 12:32	121,2540G	RI
pH (H)	8.2		SU	-	NA	1	-	08/11/22 09:47	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/11/22 09:35	08/11/22 12:02	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/11/22 09:35	08/11/22 11:22	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2240888
Report Date: 08/18/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1673584-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/11/22 09:35	08/11/22 11:21	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1673995-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/11/22 09:35	08/11/22 12:01	125,7.3	MJ

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1673467-1								
Specific Conductance	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1673584-2								
Sulfide, Reactive	104		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1673995-2								
Cyanide, Reactive	76		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1674046-1								
pH	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1674467-1								
Specific Conductance	99		-		99-101	-		

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240888-01A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2240888-01B	Vial water preserved	A	NA		2.7	Y	Absent	29-JUL-22 23:25	MCP-8260HLW-21(14)
L2240888-01C	Vial water preserved	A	NA		2.7	Y	Absent	29-JUL-22 23:25	MCP-8260HLW-21(14)
L2240888-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2240888-01E	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.7	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2240888-01F	Vial Large Septa unpreserved (4oz)	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2240888-01G	Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240888-01H	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240888-02A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2240888-02B	Vial water preserved	A	NA		2.7	Y	Absent	29-JUL-22 23:25	MCP-8260HLW-21(14)
L2240888-02C	Vial water preserved	A	NA		2.7	Y	Absent	29-JUL-22 23:25	MCP-8260HLW-21(14)
L2240888-02D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2240888-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2240888
Report Date: 08/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240888-02F	Vial Large Septa unpreserved (4oz)	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2240888-02G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.7	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2240888-02H	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240888-02I	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240888
Project Number:	134206-007	**Report Date:**	08/18/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/29/22

ALPHA Job #: L2240888

H&A Information
H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Project Information
Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time
☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables
☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Regulatory Requirements (Program/Criteria)
MA RCS-1
☐ NJ ☐ NY
Note: Select State from menu & identify criteria. ☐ Other:

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total # Bottles
40888 01	*HA22-TP3_0.0-5.0	7/29/22	0735	Soil F	JDB	0-5	x	x	x	x	x	x	x	x	*HOLD	9
02	*HA22-TP3_5.0-10.0	7/29/22	0900	Soil F	JDB	5-10	x	x	x	x	x	x	x	x	*HOLD	9

	ANALYSIS							
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	7/29/2022	[illegible]	7/29
[illegible]	7/29 16:30	[illegible]	7/29/22 1630
[illegible]	7/29/22 1804	[illegible]	7/29/22 1804

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2240888
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1674332-5	**Lab File ID**	: V26220811A05
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 08/11/22 11:02

Client Sample No.	Lab Sample ID	Analysis Date
WG1674332-3LCS	WG1674332-3	08/11/22 09:07
WG1674332-4LCSD	WG1674332-4	08/11/22 09:45
HA22-TP3_0.0-5.0	L2240888-01	08/11/22 11:41
HA22-TP3_5.0-10.0	L2240888-02	08/11/22 12:19

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240888
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA126	Calibration Date	: 08/11/22 08:28
Lab File ID	: V26220811A01	Init. Calib. Date(s)	: 07/13/22 07/14/22
Sample No	: WG1674332-2	Init. Calib. Times	: 21:35 02:43
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	126	-.01
Dichlorodifluoromethane	0.23	0.117	-	49.1*	20	64	0
Chlorodifluoromethane	0.199	0.352	-	-76.9*	20	235	.01
Chloromethane	0.24	0.191	-	20.4*	20	104	0
Vinyl chloride	0.306	0.232	-	24.2*	20	93	0
Bromomethane	0.174	0.166	-	4.6	20	127	0
Chloroethane	0.144	0.153	-	-6.3	20	133	0
Trichlorofluoromethane	0.354	0.345	-	2.5	20	122	0
Ethyl ether	0.099	0.108	-	-9.1	20	136	0
1,1-Dichloroethene	0.195	0.203	-	-4.1	20	130	0
Carbon disulfide	0.637	0.586	-	8	20	121	0
Freon-113	0.216	0.214	-	0.9	20	123	0
Iodomethane	40	39.257	-	1.9	20	133	0
Acrolein	0.023	0.023	-	0	20	135	0
Allyl chloride	0.124	0.173	-	-39.5*	20	182	0
Methylene chloride	40	43.377	-	-8.4	20	141	0
Acetone	40	46.174	-	-15.4	20	144	0
trans-1,2-Dichloroethene	0.229	0.251	-	-9.6	20	137	0
Methyl acetate	0.095	0.102	-	-7.4	20	145	0
Hexane	0.329	0.499	-	-51.7*	20	205	-.01
Methyl tert-butyl ether	0.541	0.576	-	-6.5	20	133	0
tert-Butyl alcohol	0.017	0.017	-	0	20	135	0
Diisopropyl ether	0.652	0.777	-	-19.2	20	143	0
1,1-Dichloroethane	0.408	0.463	-	-13.5	20	140	0
Halothane	0.175	0.192	-	-9.7	20	136	-.01
Acrylonitrile	40	42.771	-	-6.9	20	141	0
Ethyl tert-butyl ether	0.664	0.758	-	-14.2	20	139	0
Vinyl acetate	0.329	0.369	-	-12.2	20	141	-.01
cis-1,2-Dichloroethene	0.252	0.283	-	-12.3	20	139	0
2,2-Dichloropropane	0.354	0.396	-	-11.9	20	138	0
Bromochloromethane	0.107	0.123	-	-15	20	142	0
Cyclohexane	0.371	0.377	-	-1.6	20	125	0
Chloroform	0.43	0.487	-	-13.3	20	139	-.01
Ethyl acetate	0.133	0.142	-	-6.8	20	136	-.01
Carbon tetrachloride	0.337	0.347	-	-3	20	126	-.01
Tetrahydrofuran	40	40.106	-	-0.3	20	133	0
Dibromofluoromethane	0.261	0.251	-	3.8	20	124	-.01
1,1,1-Trichloroethane	0.365	0.386	-	-5.8	20	130	-.01
2-Butanone	0.066	0.069	-	-4.5	20	144	-.01
1,1-Dichloropropene	0.308	0.329	-	-6.8	20	131	0
Heptane	0.217	0.314	-	-44.7*	20	187	0
Benzene	0.919	1.034	-	-12.5	20	135	0
tert-Amyl methyl ether	0.583	0.648	-	-11.1	20	135	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240888
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA126	Calibration Date	: 08/11/22 08:28
Lab File ID	: V26220811A01	Init. Calib. Date(s)	: 07/13/22 07/14/22
Sample No	: WG1674332-2	Init. Calib. Times	: 21:35 02:43
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloroethane-d4	0.263	0.244	-	7.2	20	122	0
1,2-Dichloroethane	0.302	0.326	-	-7.9	20	135	0
Methyl cyclohexane	0.4	0.413	-	-3.2	20	127	-.01
Trichloroethene	0.238	0.264	-	-10.9	20	135	-.01
Dibromomethane	0.128	0.14	-	-9.4	20	138	0
1,2-Dichloropropane	0.227	0.27	-	-18.9	20	143	-.01
2-Chloroethyl vinyl ether	0.094	0.104	-	-10.6	20	140	0
Bromodichloromethane	0.311	0.362	-	-16.4	20	138	0
Methyl methacrylate	0.111	0.13	-	-17.1	20	154	-.02
1,4-Dioxane	0.00148	0.00156*	-	-5.4	20	136	0
cis-1,3-Dichloropropene	0.353	0.419	-	-18.7	20	144	-.01
Chlorobenzene-d5	1	1	-	0	20	137	0
Octane	0.318	0.414	-	-30.2*	20	180	-.01
Toluene-d8	1.39	1.315	-	5.4	20	128	0
Toluene	0.816	0.839	-	-2.8	20	134	0
4-Methyl-2-pentanone	0.08	0.083	-	-3.8	20	136	0
Tetrachloroethene	0.326	0.334	-	-2.5	20	136	0
2-Nitropropane	0.055	0.051	-	7.3	20	138	-.01
trans-1,3-Dichloropropene	0.435	0.468	-	-7.6	20	140	-.01
Methyl isothiocyanate	0.121	0.147	-	-21.5*	20	169	0
Ethyl methacrylate	0.35	0.347	-	0.9	20	133	-.01
1,1,2-Trichloroethane	0.201	0.212	-	-5.5	20	140	-.01
Chlorodibromomethane	0.281	0.3	-	-6.8	20	137	0
1,3-Dichloropropane	0.412	0.435	-	-5.6	20	141	0
1,2-Dibromoethane	0.223	0.236	-	-5.8	20	139	0
n-Butyl Acetate	0.348	0.376	-	-8	20	155	0
2-Hexanone	0.143	0.144	-	-0.7	20	134	-.01
Nonane	0.526	0.714	-	-35.7*	20	185	0
Chlorobenzene	0.88	0.929	-	-5.6	20	139	0
Ethylbenzene	1.528	1.579	-	-3.3	20	131	-.01
1,1,1,2-Tetrachloroethane	0.312	0.337	-	-8	20	138	-.01
p/m Xylene	0.6	0.617	-	-2.8	20	129	-.01
o Xylene	0.576	0.601	-	-4.3	20	131	0
Styrene	80	76.638	-	4.2	20	130	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	139	0
Bromoform	40	33.412	-	16.5	20	133	-.01
Isopropylbenzene	3.027	2.919	-	3.6	20	128	0
4-Bromofluorobenzene	0.917	0.887	-	3.3	20	137	0
Bromobenzene	0.703	0.717	-	-2	20	138	0
Decane	1.24	1.603	-	-29.3*	20	175	0
n-Propylbenzene	3.594	3.532	-	1.7	20	128	0
1,4-Dichlorobutane	0.774	0.78	-	-0.8	20	139	0
1,1,2,2-Tetrachloroethane	0.557	0.54	-	3.1	20	135	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240888
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA126	Calibration Date	: 08/11/22 08:28
Lab File ID	: V26220811A01	Init. Calib. Date(s)	: 07/13/22 07/14/22
Sample No	: WG1674332-2	Init. Calib. Times	: 21:35 02:43
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
4-Ethyltoluene	2.937	2.912	-	0.9	20	129	0
2-Chlorotoluene	2.429	2.357	-	3	20	129	0
1,3,5-Trimethylbenzene	2.556	2.518	-	1.5	20	129	-.01
1,2,3-Trichloropropane	0.41	0.395	-	3.7	20	136	0
trans-1,4-Dichloro-2-buten	0.198	0.186	-	6.1	20	130	-.01
4-Chlorotoluene	2.161	2.181	-	-0.9	20	132	0
tert-Butylbenzene	2.154	2.131	-	1.1	20	131	0
1,2,4-Trimethylbenzene	2.483	2.504	-	-0.8	20	133	0
Limonene	0.883	1.031	-	-16.8	20	160	0
sec-Butylbenzene	3.256	3.256	-	0	20	130	0
p-Isopropyltoluene	2.773	2.821	-	-1.7	20	132	0
1,3-Dichlorobenzene	1.382	1.425	-	-3.1	20	138	0
1,4-Dichlorobenzene	1.36	1.416	-	-4.1	20	141	0
trans-Decahydronaphthalene	0.791	0.926	-	-17.1	20	169	0
Undecane	1.214	1.641	-	-35.2*	20	168	0
p-Diethylbenzene	1.724	1.75	-	-1.5	20	132	0
n-Butylbenzene	3.193	3.204	-	-0.3	20	131	0
Hexachloroethane	0.491	0.556	-	-13.2	20	162	0
1,2-Dichlorobenzene	1.253	1.295	-	-3.4	20	140	0
cis-Decahydronaphthalene	0.576	0.705	-	-22.4*	20	174	0
1,2,4,5-Tetramethylbenzene	2.393	2.583	-	-7.9	20	138	0
1,2-Dibromo-3-chloropropan	0.078	0.077	-	1.3	20	138	0
1,3,5-Trichlorobenzene	0.897	0.995	-	-10.9	20	149	0
Nitrobenzene	40	40.958	-	-2.4	20	171	0
Hexachlorobutadiene	0.393	0.466	-	-18.6	20	161	0
1,2,4-Trichlorobenzene	0.745	0.827	-	-11	20	151	0
Naphthalene	1.461	1.485	-	-1.6	20	137	0
1,2,3-Trichlorobenzene	0.601	0.674	-	-12.1	20	148	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2240932
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-006
Report Date:	08/04/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2240932-01	HA22-B6_1.0-6.0	SOIL	BOSTON, MA	07/05/22 10:00	07/05/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	NO
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2240932-01: Initial calibration utilized a quadratic fit for: 1,4-dioxane

In reference to question A:

L2240932-01: The sample was analyzed with the method required holding time exceeded.

In reference to question H:

L2240932-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,1,2-trichloroethane (0.1645)

Average Response Factor: 1,1,2-trichloroethane

L2240932-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

In reference to question A:

L2240932-01: The sample was extracted with the method required holding time exceeded.

Non-MCP Related Narratives

Petroleum Hydrocarbon Quantitation

L2240932-01: The sample was extracted with the method required holding time exceeded.

Cyanide, Reactive

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

Case Narrative (continued)

L2240932-01: The sample was analyzed with the method required holding time exceeded.

WG1670060: A Laboratory Duplicate was prepared with the sample batch, however, the native sample was not available for reporting; therefore, the results could not be reported.

Sulfide, Reactive

L2240932-01: The sample was analyzed with the method required holding time exceeded.

Ignitability

L2240932-01: The sample was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative

Date: 08/04/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	HA22-B6_1.0-6.0	L2240932-01	1,2-Dichloroethane-d4	Surrogate	134	70-130	-	potential high bias
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1669662-3	2-Nitrophenol	LCSD	146	30-130	01	potential high bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2240932

Project Number: 134206-006 **Report Date:** 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/02/22 17:54
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.96	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.96	--	1
1,2-Dichloropropane	ND		ug/kg	0.96	--	1
Dibromochloromethane	ND		ug/kg	0.96	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.96	--	1
Tetrachloroethene	ND		ug/kg	0.48	--	1
Chlorobenzene	ND		ug/kg	0.48	--	1
Trichlorofluoromethane	ND		ug/kg	3.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.96	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	--	1
Bromodichloromethane	ND		ug/kg	0.48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.96	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	--	1
1,1-Dichloropropene	ND		ug/kg	0.48	--	1
Bromoform	ND		ug/kg	3.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Benzene	ND		ug/kg	0.48	--	1
Toluene	ND		ug/kg	0.96	--	1
Ethylbenzene	ND		ug/kg	0.96	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.96	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.96	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2240932

Project Number: 134206-006 **Report Date:** 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01 Date Collected: 07/05/22 10:00

Client ID: HA22-B6_1.0-6.0 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.48	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.96	--	1
Xylenes, Total	ND		ug/kg	0.96	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.96	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.96	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.96	--	1
Dichlorodifluoromethane	ND		ug/kg	9.6	--	1
Acetone	ND		ug/kg	24	--	1
Carbon disulfide	ND		ug/kg	9.6	--	1
Methyl ethyl ketone	ND		ug/kg	9.6	--	1
Methyl isobutyl ketone	ND		ug/kg	9.6	--	1
2-Hexanone	ND		ug/kg	9.6	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.96	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.96	--	1
sec-Butylbenzene	ND		ug/kg	0.96	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.96	--	1
p-Isopropyltoluene	ND		ug/kg	0.96	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.96	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2240932

Project Number: 134206-006 **Report Date:** 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01 Date Collected: 07/05/22 10:00

Client ID: HA22-B6_1.0-6.0 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	77	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**134**	Q	70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	111		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/02/22 08:54
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1670770-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/02/22 08:54
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1670770-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/02/22 08:54
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1670770-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2240932
Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670770-3 WG1670770-4								
Methylene chloride	87		85		70-130	2		20
1,1-Dichloroethane	93		91		70-130	2		20
Chloroform	92		91		70-130	1		20
Carbon tetrachloride	84		83		70-130	1		20
1,2-Dichloropropane	93		92		70-130	1		20
Dibromochloromethane	102		99		70-130	3		20
1,1,2-Trichloroethane	99		97		70-130	2		20
Tetrachloroethene	88		86		70-130	2		20
Chlorobenzene	90		88		70-130	2		20
Trichlorofluoromethane	84		83		70-130	1		20
1,2-Dichloroethane	99		97		70-130	2		20
1,1,1-Trichloroethane	86		85		70-130	1		20
Bromodichloromethane	93		91		70-130	2		20
trans-1,3-Dichloropropene	104		101		70-130	3		20
cis-1,3-Dichloropropene	96		95		70-130	1		20
1,1-Dichloropropene	85		84		70-130	1		20
Bromoform	98		99		70-130	1		20
1,1,2,2-Tetrachloroethane	93		94		70-130	1		20
Benzene	88		87		70-130	1		20
Toluene	90		88		70-130	2		20
Ethylbenzene	91		89		70-130	2		20
Chloromethane	104		102		70-130	2		20
Bromomethane	91		89		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670770-3 WG1670770-4								
Vinyl chloride	98		98		70-130	0		20
Chloroethane	101		99		70-130	2		20
1,1-Dichloroethene	85		83		70-130	2		20
trans-1,2-Dichloroethene	88		85		70-130	3		20
Trichloroethene	92		91		70-130	1		20
1,2-Dichlorobenzene	91		91		70-130	0		20
1,3-Dichlorobenzene	91		90		70-130	1		20
1,4-Dichlorobenzene	90		89		70-130	1		20
Methyl tert butyl ether	94		93		70-130	1		20
p/m-Xylene	91		89		70-130	2		20
o-Xylene	92		90		70-130	2		20
cis-1,2-Dichloroethene	88		86		70-130	2		20
Dibromomethane	93		92		70-130	1		20
1,2,3-Trichloropropane	97		99		70-130	2		20
Styrene	94		92		70-130	2		20
Dichlorodifluoromethane	105		106		70-130	1		20
Acetone	89		92		70-130	3		20
Carbon disulfide	81		78		70-130	4		20
Methyl ethyl ketone	89		93		70-130	4		20
Methyl isobutyl ketone	99		100		70-130	1		20
2-Hexanone	99		101		70-130	2		20
Bromochloromethane	92		89		70-130	3		20
Tetrahydrofuran	102		104		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2240932
Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670770-3 WG1670770-4								
2,2-Dichloropropane	90		88		70-130	2		20
1,2-Dibromoethane	91		90		70-130	1		20
1,3-Dichloropropane	98		97		70-130	1		20
1,1,1,2-Tetrachloroethane	98		95		70-130	3		20
Bromobenzene	91		91		70-130	0		20
n-Butylbenzene	92		92		70-130	0		20
sec-Butylbenzene	89		88		70-130	1		20
tert-Butylbenzene	88		88		70-130	0		20
o-Chlorotoluene	91		91		70-130	0		20
p-Chlorotoluene	93		92		70-130	1		20
1,2-Dibromo-3-chloropropane	87		89		70-130	2		20
Hexachlorobutadiene	90		90		70-130	0		20
Isopropylbenzene	90		91		70-130	1		20
p-Isopropyltoluene	89		90		70-130	1		20
Naphthalene	95		95		70-130	0		20
n-Propylbenzene	91		91		70-130	0		20
1,2,3-Trichlorobenzene	95		93		70-130	2		20
1,2,4-Trichlorobenzene	93		91		70-130	2		20
1,3,5-Trimethylbenzene	90		91		70-130	1		20
1,2,4-Trimethylbenzene	91		90		70-130	1		20
Diethyl ether	99		98		70-130	1		20
Diisopropyl Ether	102		100		70-130	2		20
Ethyl-Tert-Butyl-Ether	98		96		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670770-3 WG1670770-4								
Tertiary-Amyl Methyl Ether	92		92		70-130	0		20
1,4-Dioxane	104		106		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		107		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	100		102		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/04/22 14:51
Analyst: JG
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 08/01/22 13:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	2000		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	79	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	79	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	79	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	79	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	23000	E	ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	79	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	79	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	400		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	79	--	1
Benzo(a)anthracene	19000	E	ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2240932

Project Number: 134206-006 **Report Date:** 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01 Date Collected: 07/05/22 10:00

Client ID: HA22-B6_1.0-6.0 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	18000	E	ug/kg	150	--	1
Benzo(b)fluoranthene	22000	E	ug/kg	110	--	1
Benzo(k)fluoranthene	5300		ug/kg	110	--	1
Chrysene	15000	E	ug/kg	110	--	1
Acenaphthylene	280		ug/kg	150	--	1
Anthracene	6600		ug/kg	110	--	1
Benzo(ghi)perylene	8400	E	ug/kg	150	--	1
Fluorene	2300		ug/kg	190	--	1
Phenanthrene	16000	E	ug/kg	110	--	1
Dibenzo(a,h)anthracene	2600		ug/kg	79	--	1
Indeno(1,2,3-cd)pyrene	10000	E	ug/kg	150	--	1
Pyrene	20000	E	ug/kg	110	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	1100		ug/kg	190	--	1
2-Methylnaphthalene	440		ug/kg	79	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	79	--	1
2-Chlorophenol	ND		ug/kg	79	--	1
2,4-Dichlorophenol	ND		ug/kg	79	--	1
2,4-Dimethylphenol	ND		ug/kg	79	--	1
2-Nitrophenol	ND		ug/kg	410	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	910	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	120		ug/kg	38	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2240932

Project Number: 134206-006 **Report Date:** 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01 Date Collected: 07/05/22 10:00

Client ID: HA22-B6_1.0-6.0 Date Received: 07/05/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	87		30-130
2-Fluorobiphenyl	67		30-130
2,4,6-Tribromophenol	105		30-130
4-Terphenyl-d14	68		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2240932
Project Number: 134206-006
Report Date: 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01 D
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/04/22 15:35
Analyst: JG
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 08/01/22 13:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	32000		ug/kg	1100	--	10
Benzo(a)anthracene	25000		ug/kg	1100	--	10
Benzo(a)pyrene	19000		ug/kg	1500	--	10
Benzo(b)fluoranthene	22000		ug/kg	1100	--	10
Chrysene	25000		ug/kg	1100	--	10
Benzo(ghi)perylene	8500		ug/kg	1500	--	10
Phenanthrene	24000		ug/kg	1100	--	10
Indeno(1,2,3-cd)pyrene	9800		ug/kg	1500	--	10
Pyrene	28000		ug/kg	1100	--	10

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/04/22 16:50
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/01/22 09:08

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1669662-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	170	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/04/22 16:50
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/01/22 09:08

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1669662-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	170	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/04/22 16:50
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/01/22 09:08

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1669662-1					
Biphenyl	ND		ug/kg	32	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	88		30-130
2-Fluorobiphenyl	72		30-130
2,4,6-Tribromophenol	95		30-130
4-Terphenyl-d14	77		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1669662-2 WG1669662-3								
Acenaphthene	73		83		40-140	13		30
1,2,4-Trichlorobenzene	71		86		40-140	19		30
Hexachlorobenzene	74		86		40-140	15		30
Bis(2-chloroethyl)ether	67		82		40-140	20		30
2-Chloronaphthalene	72		83		40-140	14		30
1,2-Dichlorobenzene	66		82		40-140	22		30
1,3-Dichlorobenzene	64		80		40-140	22		30
1,4-Dichlorobenzene	65		82		40-140	23		30
3,3'-Dichlorobenzidine	72		82		40-140	13		30
2,4-Dinitrotoluene	85		98		40-140	14		30
2,6-Dinitrotoluene	85		99		40-140	15		30
Azobenzene	73		84		40-140	14		30
Fluoranthene	73		83		40-140	13		30
4-Bromophenyl phenyl ether	76		89		40-140	16		30
Bis(2-chloroisopropyl)ether	59		72		40-140	20		30
Bis(2-chloroethoxy)methane	76		90		40-140	17		30
Hexachlorobutadiene	66		82		40-140	22		30
Hexachloroethane	66		84		40-140	24		30
Isophorone	74		86		40-140	15		30
Naphthalene	71		85		40-140	18		30
Nitrobenzene	84		102		40-140	19		30
Bis(2-ethylhexyl)phthalate	85		96		40-140	12		30
Butyl benzyl phthalate	82		94		40-140	14		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2240932
Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1669662-2 WG1669662-3								
Di-n-butylphthalate	83		94		40-140	12		30
Di-n-octylphthalate	85		96		40-140	12		30
Diethyl phthalate	76		87		40-140	13		30
Dimethyl phthalate	73		84		40-140	14		30
Benzo(a)anthracene	71		80		40-140	12		30
Benzo(a)pyrene	75		85		40-140	13		30
Benzo(b)fluoranthene	75		84		40-140	11		30
Benzo(k)fluoranthene	71		82		40-140	14		30
Chrysene	69		78		40-140	12		30
Acenaphthylene	75		86		40-140	14		30
Anthracene	75		84		40-140	11		30
Benzo(ghi)perylene	74		84		40-140	13		30
Fluorene	76		87		40-140	13		30
Phenanthrene	74		82		40-140	10		30
Dibenzo(a,h)anthracene	72		82		40-140	13		30
Indeno(1,2,3-cd)pyrene	84		96		40-140	13		30
Pyrene	71		82		40-140	14		30
Aniline	61		72		40-140	17		30
4-Chloroaniline	61		71		40-140	15		30
Dibenzofuran	73		83		40-140	13		30
2-Methylnaphthalene	76		88		40-140	15		30
Acetophenone	74		88		40-140	17		30
2,4,6-Trichlorophenol	84		96		30-130	13		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1669662-2 WG1669662-3								
2-Chlorophenol	78		95		30-130	20		30
2,4-Dichlorophenol	85		99		30-130	15		30
2,4-Dimethylphenol	80		94		30-130	16		30
2-Nitrophenol	120		**146**	Q	30-130	20		30
4-Nitrophenol	81		96		30-130	17		30
2,4-Dinitrophenol	67		89		30-130	28		30
Pentachlorophenol	81		93		30-130	14		30
Phenol	71		84		30-130	17		30
2-Methylphenol	81		94		30-130	15		30
3-Methylphenol/4-Methylphenol	82		96		30-130	16		30
2,4,5-Trichlorophenol	84		98		30-130	15		30
Pyridine	44		51		30-130	15		30
Biphenyl	75		86		40-140	14		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	81		98		30-130
Phenol-d6	84		99		30-130
Nitrobenzene-d5	96		115		30-130
2-Fluorobiphenyl	79		91		30-130
2,4,6-Tribromophenol	105		123		30-130
4-Terphenyl-d14	77		88		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/04/22 02:11
Analyst: AL
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 08/01/22 17:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	261000		ug/kg	37500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	51		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/03/22 21:33
Analyst: AL

Extraction Method: EPA 3546
Extraction Date: 08/01/22 09:05

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1669659-1					
TPH (C10-C36)	ND		ug/kg	32800	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	73		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1669659-2								
TPH (C10-C36)	88		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	74				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2240932
Report Date: 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/02/22 10:52
Analyst: JM
Percent Solids: 87%

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/01/22 17:48
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.6	--	1	A
Aroclor 1221	ND		ug/kg	37.6	--	1	A
Aroclor 1232	ND		ug/kg	37.6	--	1	A
Aroclor 1242	ND		ug/kg	37.6	--	1	A
Aroclor 1248	ND		ug/kg	37.6	--	1	A
Aroclor 1254	ND		ug/kg	37.6	--	1	A
Aroclor 1260	ND		ug/kg	37.6	--	1	A
Aroclor 1262	ND		ug/kg	37.6	--	1	A
Aroclor 1268	ND		ug/kg	37.6	--	1	B
PCBs, Total	ND		ug/kg	37.6	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	129		30-150	B
2,4,5,6-Tetrachloro-m-xylene	95		30-150	A
Decachlorobiphenyl	101		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/02/22 10:27
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 08/01/22 09:10
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1669665-1						
Aroclor 1016	ND		ug/kg	31.5	--	A
Aroclor 1221	ND		ug/kg	31.5	--	A
Aroclor 1232	ND		ug/kg	31.5	--	A
Aroclor 1242	ND		ug/kg	31.5	--	A
Aroclor 1248	ND		ug/kg	31.5	--	A
Aroclor 1254	ND		ug/kg	31.5	--	A
Aroclor 1260	ND		ug/kg	31.5	--	A
Aroclor 1262	ND		ug/kg	31.5	--	A
Aroclor 1268	ND		ug/kg	31.5	--	A
PCBs, Total	ND		ug/kg	31.5	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	B
Decachlorobiphenyl	81		30-150	B
2,4,5,6-Tetrachloro-m-xylene	103		30-150	A
Decachlorobiphenyl	106		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1669665-2 WG1669665-3									
Aroclor 1016	104		105		40-140	1		30	A
Aroclor 1260	99		99		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		85		30-150	B
Decachlorobiphenyl	83		84		30-150	B
2,4,5,6-Tetrachloro-m-xylene	106		103		30-150	A
Decachlorobiphenyl	111		111		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2240932
Project Number: 134206-006
Report Date: 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.26	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Arsenic, Total	5.32		mg/kg	0.451	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Barium, Total	82.3		mg/kg	0.451	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Beryllium, Total	0.271		mg/kg	0.226	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Cadmium, Total	ND		mg/kg	0.451	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Chromium, Total	16.7		mg/kg	0.451	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Lead, Total	117		mg/kg	2.26	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Mercury, Total	0.100		mg/kg	0.081	--	1	08/01/22 22:18	08/02/22 08:19	EPA 7471B	97,7471B	DMB
Nickel, Total	11.9		mg/kg	1.13	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Selenium, Total	ND		mg/kg	2.26	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Silver, Total	ND		mg/kg	0.451	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Thallium, Total	ND		mg/kg	2.26	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Vanadium, Total	24.5		mg/kg	0.451	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK
Zinc, Total	74.1		mg/kg	2.26	--	1	08/01/22 21:29	08/04/22 16:53	EPA 3050B	97,6010D	ZK

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2240932

Project Number: 134206-006 **Report Date:** 08/04/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1669853-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Arsenic, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Barium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Beryllium, Total	ND		mg/kg	0.200	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Cadmium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Chromium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Lead, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Nickel, Total	ND		mg/kg	1.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Selenium, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Silver, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Thallium, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Vanadium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Zinc, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1669856-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/01/22 22:18	08/02/22 07:53	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1669853-2 WG1669853-3 SRM Lot Number: D113-540								
Antimony, Total	130		124		20-250	5		30
Arsenic, Total	100		96		70-130	4		30
Barium, Total	91		87		75-125	4		30
Beryllium, Total	101		86		75-125	16		30
Cadmium, Total	95		87		75-125	9		30
Chromium, Total	97		90		70-130	7		30
Lead, Total	92		89		72-128	3		30
Nickel, Total	94		89		70-130	5		30
Selenium, Total	99		95		66-134	4		30
Silver, Total	98		94		70-131	4		30
Thallium, Total	92		88		70-130	4		30
Vanadium, Total	94		90		74-126	4		30
Zinc, Total	93		90		70-130	3		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1669856-2 WG1669856-3 SRM Lot Number: D113-540								
Mercury, Total	97		97		60-140	0		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

SAMPLE RESULTS

Lab ID:	L2240932-01	Date Collected:	07/05/22 10:00
Client ID:	HA22-B6_1.0-6.0	Date Received:	07/05/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Clay
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/02/22 08:21	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

SAMPLE RESULTS

Lab ID: L2240932-01
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	530		umhos/cm	10	--	1	-	08/02/22 08:05	1,9050A	GB
Solids, Total	87.4		%	0.100	NA	1	-	08/02/22 11:58	121,2540G	RI
pH (H)	8.9		SU	-	NA	1	-	08/02/22 03:31	1,9045D	GB
Cyanide, Reactive	ND		mg/kg	130	--	1	08/02/22 11:50	08/02/22 13:33	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/02/22 11:50	08/02/22 13:13	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-006
Lab Number: L2240932
Report Date: 08/04/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1669069-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/02/22 11:50	08/02/22 13:00	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1670060-1										
Cyanide, Reactive	ND		mg/kg	20	--	2	08/02/22 11:50	08/02/22 13:27	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1669069-2								
Sulfide, Reactive	91		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1669945-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1669946-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1670060-2								
Cyanide, Reactive	100		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2240932

Report Date: 08/04/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1669945-2 QC Sample: L2240932-01 Client ID: HA22-B6_1.0-6.0						
pH (H)	8.9	8.8	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1669946-2 QC Sample: L2240932-01 Client ID: HA22-B6_1.0-6.0						
Specific Conductance @ 25 C	530	530	umhos/cm	0		20

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2240932
Report Date: 08/04/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240932-01A	Vial MeOH preserved	A	NA		3.5	Y	Absent		MCP-8260HLW-21(14)
L2240932-01B	Vial water preserved	A	NA		3.5	Y	Absent	05-JUL-22 21:22	MCP-8260HLW-21(14)
L2240932-01C	Vial water preserved	A	NA		3.5	Y	Absent	05-JUL-22 21:22	MCP-8260HLW-21(14)
L2240932-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2240932-01E	Glass 500ml/16oz unpreserved	A	NA		3.5	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240932-01F	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Absent		HEXCR-RELOG()
L2240932-01G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		3.5	Y	Absent		HEXCR-RELOG()

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2240932
Project Number:	134206-006	**Report Date:**	08/04/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

8/1/22 L2240932 GG

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581, 8 Walkup Dr., TEL: 508-898-9220, FAX: 508-898-9193

Mansfield, MA 02048, 320 Forbes Blvd, TEL: 508-822-9300, FAX: 508-822-3288

Service Centers: Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/5/22

ALPHA Job #: L2235654

Project Information

Project Name: Matthews Arena - Northeastern University

Project Location: Boston, MA

Project #: 134206-006

(Use Project name as Project #) ☐

Project Manager: Kaitlyn Tripp

ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:

☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax

☐ EQuIS (1 File) ☑ EQuIS (4 File)

☐ Other:

Billing Information

☐ Same as Client Info

PO #

H&A Information

H&A Client: NEU

H&A Address: 465 Medford St, Suite 2200

Boston, MA 02129

H&A Phone: 617.886.7358

H&A Fax:

H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration

☐ Done

☐ Lab to do

Preservation

☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note	Sample Specific Comments	Total Bottles
~~35654~~ -01	HA22-B6_1.0-6.0	7/5/2022	1000	SO/F	MJD	1-6'	x	x	x	x	x	x	x	x		8
40952 -02	HA22-B5_0.5-2.6	"	1345	SO/F	MJD	0.5-2.6	X	X	X	X	X	X	X	X		8
															CLOTAC	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935

Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/5/2022 1455	[signature] Plus AAL	7/5/22 1455
[signature]	7/5/22 1616	[signature]	7/5/22 1616

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2240932
Project Name	: MATTHEWS ARENA-NORTHEASTERN U	**Project Number**	: 134206-006
Lab Sample ID	: WG1670770-5	**Lab File ID**	: V17220802A05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 08/02/22 08:54

Client Sample No.	Lab Sample ID	Analysis Date
WG1670770-3LCS	WG1670770-3	08/02/22 07:35
WG1670770-4LCSD	WG1670770-4	08/02/22 08:01
HA22-B6_1.0-6.0	L2240932-01	08/02/22 17:54

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240932		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA117	Calibration Date	: 08/02/22 07:09		
Lab File ID	: V17220802A01	Init. Calib. Date(s)	: 07/18/22	07/19/22	
Sample No	: WG1670770-2	Init. Calib. Times	: 09:43	07:58	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	103	0
Dichlorodifluoromethane	0.197	0.203	-	-3	20	101	0
Chloromethane	0.317	0.329	-	-3.8	20	104	0
Vinyl chloride	0.243	0.231	-	4.9	20	94	0
Bromomethane	0.145	0.129	-	11	20	97	0
Chloroethane	0.133	0.135	-	-1.5	20	97	0
Trichlorofluoromethane	0.34	0.281	-	17.4	20	82	0
Ethyl ether	0.079	0.08	-	-1.3	20	98	0
1,1-Dichloroethene	0.201	0.167	-	16.9	20	82	0
Carbon disulfide	0.643	0.513	-	20.2*	20	84	0
Freon-113	0.218	0.172	-	21.1*	20	77	0
Acrolein	0.023	0.022	-	4.3	20	88	-.01
Methylene chloride	0.238	0.212	-	10.9	20	93	0
Acetone	40	36.367	-	9.1	20	97	0
trans-1,2-Dichloroethene	0.233	0.199	-	14.6	20	84	0
Methyl acetate	0.118	0.12	-	-1.7	20	102	0
Methyl tert-butyl ether	0.509	0.482	-	5.3	20	91	0
tert-Butyl alcohol	0.018	0.017	-	5.6	20	87	0
Diisopropyl ether	0.828	0.852	-	-2.9	20	98	0
1,1-Dichloroethane	0.454	0.42	-	7.5	20	91	0
Halothane	0.187	0.152	-	18.7	20	80	-.01
Acrylonitrile	40	39.802	-	0.5	20	96	0
Ethyl tert-butyl ether	0.73	0.722	-	1.1	20	94	0
Vinyl acetate	0.45	0.503	-	-11.8	20	100	0
cis-1,2-Dichloroethene	0.254	0.222	-	12.6	20	85	0
2,2-Dichloropropane	0.368	0.331	-	10.1	20	88	0
Bromochloromethane	0.105	0.097*	-	7.6	20	88	0
Cyclohexane	0.489	0.395	-	19.2	20	79	0
Chloroform	0.433	0.4	-	7.6	20	92	0
Ethyl acetate	0.157	0.173	-	-10.2	20	99	0
Carbon tetrachloride	0.352	0.292	-	17	20	81	0
Tetrahydrofuran	40	41.071	-	-2.7	20	97	0
Dibromofluoromethane	0.254	0.249	-	2	20	101	0
1,1,1-Trichloroethane	0.374	0.318	-	15	20	83	0
2-Butanone	0.08	0.073	-	8.8	20	92	0
1,1-Dichloropropene	0.324	0.272	-	16	20	82	0
Benzene	0.937	0.823	-	12.2	20	86	0
tert-Amyl methyl ether	0.553	0.512	-	7.4	20	87	0
1,2-Dichloroethane-d4	0.257	0.271	-	-5.4	20	110	0
1,2-Dichloroethane	0.289	0.285	-	1.4	20	96	0
Methyl cyclohexane	0.439	0.329	-	25.1*	20	73	0
Trichloroethene	0.253	0.214	-	15.4	20	83	0
Dibromomethane	0.118	0.109	-	7.6	20	88	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240932		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA117	Calibration Date	: 08/02/22 07:09		
Lab File ID	: V17220802A01	Init. Calib. Date(s)	: 07/18/22	07/19/22	
Sample No	: WG1670770-2	Init. Calib. Times	: 09:43	07:58	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.256	0.237	-	7.4	20	90	0
2-Chloroethyl vinyl ether	0.126	0.108	-	14.3	20	83	0
Bromodichloromethane	0.314	0.291*	-	7.3	20	90	0
1,4-Dioxane	2000	2104.472	-	-5.2	20	113	-.01
cis-1,3-Dichloropropene	0.352	0.338	-	4	20	90	0
Chlorobenzene-d5	1	1	-	0	20	98	0
Toluene-d8	1.312	1.346	-	-2.6	20	100	0
Toluene	0.812	0.729	-	10.2	20	83	0
4-Methyl-2-pentanone	0.088	0.084	-	4.5	20	86	0
Tetrachloroethene	0.344	0.297	-	13.7	20	79	0
trans-1,3-Dichloropropene	0.395	0.409	-	-3.5	20	90	0
Ethyl methacrylate	0.319	0.29	-	9.1	20	82	0
1,1,2-Trichloroethane	0.187	0.186*	-	0.5	20	88	0
Chlorodibromomethane	0.277	0.279	-	-0.7	20	87	0
1,3-Dichloropropane	0.397	0.389	-	2	20	89	0
1,2-Dibromoethane	40	36.644	-	8.4	20	87	0
2-Hexanone	0.16	0.15	-	6.3	20	84	0
Chlorobenzene	0.894	0.805	-	10	20	84	0
Ethylbenzene	1.574	1.417	-	10	20	83	0
1,1,1,2-Tetrachloroethane	0.306	0.296	-	3.3	20	84	0
p/m Xylene	0.6	0.538	-	10.3	20	81	0
o Xylene	0.578	0.528	-	8.7	20	82	0
Styrene	0.925	0.87	-	5.9	20	82	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	94	0
Bromoform	0.304	0.304	-	0	20	83	0
Isopropylbenzene	2.962	2.676	-	9.7	20	79	0
4-Bromofluorobenzene	0.912	0.925	-	-1.4	20	96	0
Bromobenzene	0.673	0.622	-	7.6	20	81	0
n-Propylbenzene	3.555	3.24	-	8.9	20	81	0
1,4-Dichlorobutane	0.876	0.924	-	-5.5	20	91	0
1,1,2,2-Tetrachloroethane	0.508	0.508	-	0	20	82	0
4-Ethyltoluene	2.95	2.682	-	9.1	20	81	0
2-Chlorotoluene	2.051	1.884	-	8.1	20	81	0
1,3,5-Trimethylbenzene	2.515	2.29	-	8.9	20	80	0
1,2,3-Trichloropropane	0.411	0.403	-	1.9	20	85	0
trans-1,4-Dichloro-2-buten	0.17	0.193	-	-13.5	20	93	0
4-Chlorotoluene	2.137	2.01	-	5.9	20	83	0
tert-Butylbenzene	2.24	1.966	-	12.2	20	77	0
1,2,4-Trimethylbenzene	2.5	2.292	-	8.3	20	81	0
sec-Butylbenzene	3.398	2.988	-	12.1	20	77	0
p-Isopropyltoluene	2.889	2.585	-	10.5	20	77	0
1,3-Dichlorobenzene	1.393	1.285	-	7.8	20	81	0
1,4-Dichlorobenzene	1.409	1.28	-	9.2	20	81	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2240932		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA117	Calibration Date	: 08/02/22 07:09		
Lab File ID	: V17220802A01	Init. Calib. Date(s)	: 07/18/22	07/19/22	
Sample No	: WG1670770-2	Init. Calib. Times	: 09:43	07:58	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.743	1.553	-	10.9	20	77	0
n-Butylbenzene	2.635	2.397	-	9	20	80	0
1,2-Dichlorobenzene	1.281	1.181	-	7.8	20	80	0
1,2,4,5-Tetramethylbenzene	2.665	2.479	-	7	20	78	0
1,2-Dibromo-3-chloropropan	40	33.876	-	15.3	20	74	0
1,3,5-Trichlorobenzene	1.05	0.977	-	7	20	81	0
Hexachlorobutadiene	0.534	0.471	-	11.8	20	77	0
1,2,4-Trichlorobenzene	0.925	0.859	-	7.1	20	80	0
Naphthalene	1.834	1.724	-	6	20	76	0
1,2,3-Trichlorobenzene	0.817	0.774	-	5.3	20	80	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2241084
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/05/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2241084-01	HA22-TP1_5-8	SOIL	BOSTON, MA	08/01/22 13:10	08/01/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2241084-01: Initial calibration utilized a quadratic fit for: 1,4-dioxane

In reference to question H:

L2241084-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 08/05/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01
Client ID: HA22-TP1_5-8
Sample Location: BOSTON, MA

Date Collected: 08/01/22 13:10
Date Received: 08/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/03/22 09:19
Analyst: NLK
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.5	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	ND		ug/kg	0.55	--	1
Chlorobenzene	ND		ug/kg	0.55	--	1
Trichlorofluoromethane	ND		ug/kg	4.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.55	--	1
Bromodichloromethane	ND		ug/kg	0.55	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.55	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.55	--	1
1,1-Dichloropropene	ND		ug/kg	0.55	--	1
Bromoform	ND		ug/kg	4.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.55	--	1
Benzene	ND		ug/kg	0.55	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.4	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01 Date Collected: 08/01/22 13:10

Client ID: HA22-TP1_5-8 Date Received: 08/01/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.55	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	ND		ug/kg	28	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.4	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.55	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	--	1
Hexachlorobutadiene	ND		ug/kg	4.4	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.4	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01 Date Collected: 08/01/22 13:10

Client ID: HA22-TP1_5-8 Date Received: 08/01/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	88	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	102		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/03/22 08:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1671265-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/03/22 08:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1671265-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/03/22 08:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1671265-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1671265-3 WG1671265-4								
Methylene chloride	85		83		70-130	2		20
1,1-Dichloroethane	88		85		70-130	3		20
Chloroform	87		84		70-130	4		20
Carbon tetrachloride	89		85		70-130	5		20
1,2-Dichloropropane	83		81		70-130	2		20
Dibromochloromethane	91		88		70-130	3		20
1,1,2-Trichloroethane	86		83		70-130	4		20
Tetrachloroethene	93		88		70-130	6		20
Chlorobenzene	85		82		70-130	4		20
Trichlorofluoromethane	92		87		70-130	6		20
1,2-Dichloroethane	89		87		70-130	2		20
1,1,1-Trichloroethane	90		87		70-130	3		20
Bromodichloromethane	85		84		70-130	1		20
trans-1,3-Dichloropropene	92		87		70-130	6		20
cis-1,3-Dichloropropene	84		82		70-130	2		20
1,1-Dichloropropene	87		83		70-130	5		20
Bromoform	86		84		70-130	2		20
1,1,2,2-Tetrachloroethane	77		73		70-130	5		20
Benzene	83		80		70-130	4		20
Toluene	87		82		70-130	6		20
Ethylbenzene	88		83		70-130	6		20
Chloromethane	103		97		70-130	6		20
Bromomethane	79		76		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1671265-3 WG1671265-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Vinyl chloride	94		89		70-130	5		20
Chloroethane	83		79		70-130	5		20
1,1-Dichloroethene	89		86		70-130	3		20
trans-1,2-Dichloroethene	87		84		70-130	4		20
Trichloroethene	85		85		70-130	0		20
1,2-Dichlorobenzene	87		84		70-130	4		20
1,3-Dichlorobenzene	90		86		70-130	5		20
1,4-Dichlorobenzene	87		85		70-130	2		20
Methyl tert butyl ether	84		84		70-130	0		20
p/m-Xylene	90		86		70-130	5		20
o-Xylene	89		86		70-130	3		20
cis-1,2-Dichloroethene	84		80		70-130	5		20
Dibromomethane	82		82		70-130	0		20
1,2,3-Trichloropropane	80		80		70-130	0		20
Styrene	81		77		70-130	5		20
Dichlorodifluoromethane	129		122		70-130	6		20
Acetone	110		108		70-130	2		20
Carbon disulfide	84		79		70-130	6		20
Methyl ethyl ketone	75		76		70-130	1		20
Methyl isobutyl ketone	77		77		70-130	0		20
2-Hexanone	78		78		70-130	0		20
Bromochloromethane	88		86		70-130	2		20
Tetrahydrofuran	76		79		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1671265-3 WG1671265-4								
2,2-Dichloropropane	91		86		70-130	6		20
1,2-Dibromoethane	86		85		70-130	1		20
1,3-Dichloropropane	87		84		70-130	4		20
1,1,1,2-Tetrachloroethane	91		87		70-130	4		20
Bromobenzene	86		84		70-130	2		20
n-Butylbenzene	90		85		70-130	6		20
sec-Butylbenzene	89		84		70-130	6		20
tert-Butylbenzene	90		85		70-130	6		20
o-Chlorotoluene	90		83		70-130	8		20
p-Chlorotoluene	90		86		70-130	5		20
1,2-Dibromo-3-chloropropane	77		77		70-130	0		20
Hexachlorobutadiene	82		77		70-130	6		20
Isopropylbenzene	88		84		70-130	5		20
p-Isopropyltoluene	92		86		70-130	7		20
Naphthalene	81		80		70-130	1		20
n-Propylbenzene	89		84		70-130	6		20
1,2,3-Trichlorobenzene	84		80		70-130	5		20
1,2,4-Trichlorobenzene	86		82		70-130	5		20
1,3,5-Trimethylbenzene	91		87		70-130	4		20
1,2,4-Trimethylbenzene	91		87		70-130	4		20
Diethyl ether	86		87		70-130	1		20
Diisopropyl Ether	91		90		70-130	1		20
Ethyl-Tert-Butyl-Ether	88		86		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2241084

Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1671265-3 WG1671265-4								
Tertiary-Amyl Methyl Ether	82		82		70-130	0		20
1,4-Dioxane	79		78		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		102		70-130
Toluene-d8	104		102		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	99		98		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01
Client ID: HA22-TP1_5-8
Sample Location: BOSTON, MA

Date Collected: 08/01/22 13:10
Date Received: 08/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/05/22 03:23
Analyst: IM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/02/22 00:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	85	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	85	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	85	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	85	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	85	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	85	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	85	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01 Date Collected: 08/01/22 13:10

Client ID: HA22-TP1_5-8 Date Received: 08/01/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	85	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	85	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	85	--	1
2-Chlorophenol	ND		ug/kg	85	--	1
2,4-Dichlorophenol	ND		ug/kg	85	--	1
2,4-Dimethylphenol	ND		ug/kg	85	--	1
2-Nitrophenol	ND		ug/kg	440	--	1
4-Nitrophenol	ND		ug/kg	280	--	1
2,4-Dinitrophenol	ND		ug/kg	980	--	1
Pentachlorophenol	ND		ug/kg	410	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	220	--	1
Biphenyl	ND		ug/kg	41	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01 Date Collected: 08/01/22 13:10

Client ID: HA22-TP1_5-8 Date Received: 08/01/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	79		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	75		30-130
2-Fluorobiphenyl	78		30-130
2,4,6-Tribromophenol	85		30-130
4-Terphenyl-d14	82		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/04/22 23:48
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/02/22 00:50

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1669951-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/04/22 23:48
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/02/22 00:50

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1669951-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/04/22 23:48
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/02/22 00:50

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1669951-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	64		30-130
Phenol-d6	65		30-130
Nitrobenzene-d5	68		30-130
2-Fluorobiphenyl	58		30-130
2,4,6-Tribromophenol	82		30-130
4-Terphenyl-d14	66		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1669951-2 WG1669951-3								
Acenaphthene	59		70		40-140	17		30
1,2,4-Trichlorobenzene	58		67		40-140	14		30
Hexachlorobenzene	62		74		40-140	18		30
Bis(2-chloroethyl)ether	56		65		40-140	15		30
2-Chloronaphthalene	57		67		40-140	16		30
1,2-Dichlorobenzene	57		66		40-140	15		30
1,3-Dichlorobenzene	56		66		40-140	16		30
1,4-Dichlorobenzene	57		66		40-140	15		30
3,3'-Dichlorobenzidine	52		61		40-140	16		30
2,4-Dinitrotoluene	73		84		40-140	14		30
2,6-Dinitrotoluene	68		81		40-140	17		30
Azobenzene	59		68		40-140	14		30
Fluoranthene	62		73		40-140	16		30
4-Bromophenyl phenyl ether	61		72		40-140	17		30
Bis(2-chloroisopropyl)ether	46		54		40-140	16		30
Bis(2-chloroethoxy)methane	59		69		40-140	16		30
Hexachlorobutadiene	56		66		40-140	16		30
Hexachloroethane	59		68		40-140	14		30
Isophorone	55		66		40-140	18		30
Naphthalene	59		67		40-140	13		30
Nitrobenzene	67		78		40-140	15		30
Bis(2-ethylhexyl)phthalate	68		80		40-140	16		30
Butyl benzyl phthalate	69		81		40-140	16		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1669951-2 WG1669951-3								
Di-n-butylphthalate	66		77		40-140	15		30
Di-n-octylphthalate	68		80		40-140	16		30
Diethyl phthalate	62		73		40-140	16		30
Dimethyl phthalate	57		67		40-140	16		30
Benzo(a)anthracene	58		67		40-140	14		30
Benzo(a)pyrene	63		73		40-140	15		30
Benzo(b)fluoranthene	60		72		40-140	18		30
Benzo(k)fluoranthene	61		70		40-140	14		30
Chrysene	58		67		40-140	14		30
Acenaphthylene	60		69		40-140	14		30
Anthracene	62		72		40-140	15		30
Benzo(ghi)perylene	62		73		40-140	16		30
Fluorene	61		72		40-140	17		30
Phenanthrene	60		70		40-140	15		30
Dibenzo(a,h)anthracene	59		71		40-140	18		30
Indeno(1,2,3-cd)pyrene	68		81		40-140	17		30
Pyrene	61		72		40-140	17		30
Aniline	50		58		40-140	15		30
4-Chloroaniline	51		63		40-140	21		30
Dibenzofuran	60		70		40-140	15		30
2-Methylnaphthalene	60		70		40-140	15		30
Acetophenone	59		69		40-140	16		30
2,4,6-Trichlorophenol	65		76		30-130	16		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1669951-2 WG1669951-3								
2-Chlorophenol	63		74		30-130	16		30
2,4-Dichlorophenol	65		76		30-130	16		30
2,4-Dimethylphenol	62		74		30-130	18		30
2-Nitrophenol	95		112		30-130	16		30
4-Nitrophenol	69		81		30-130	16		30
2,4-Dinitrophenol	92		105		30-130	13		30
Pentachlorophenol	68		82		30-130	19		30
Phenol	56		66		30-130	16		30
2-Methylphenol	62		73		30-130	16		30
3-Methylphenol/4-Methylphenol	63		74		30-130	16		30
2,4,5-Trichlorophenol	66		78		30-130	17		30
Pyridine	43		50		30-130	15		30
Biphenyl	59		69		40-140	16		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	60		69		30-130
Phenol-d6	59		68		30-130
Nitrobenzene-d5	63		74		30-130
2-Fluorobiphenyl	52		60		30-130
2,4,6-Tribromophenol	76		88		30-130
4-Terphenyl-d14	54		63		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01
Client ID: HA22-TP1_5-8
Sample Location: BOSTON, MA

Date Collected: 08/01/22 13:10
Date Received: 08/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/03/22 12:00
Analyst: MC
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/02/22 00:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	40000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	63		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/03/22 11:07
Analyst: MC

Extraction Method: EPA 3546
Extraction Date: 08/01/22 23:54

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1669939-1					
TPH (C10-C36)	ND		ug/kg	32400	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	96		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2241084

Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1669939-2								
TPH (C10-C36)	93		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	86				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01
Client ID: HA22-TP1_5-8
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/02/22 15:37
Analyst: JM
Percent Solids: 80%

Date Collected: 08/01/22 13:10
Date Received: 08/01/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/02/22 01:25
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.6	--	1	A
Aroclor 1221	ND		ug/kg	40.6	--	1	A
Aroclor 1232	ND		ug/kg	40.6	--	1	A
Aroclor 1242	ND		ug/kg	40.6	--	1	A
Aroclor 1248	ND		ug/kg	40.6	--	1	A
Aroclor 1254	ND		ug/kg	40.6	--	1	A
Aroclor 1260	ND		ug/kg	40.6	--	1	A
Aroclor 1262	ND		ug/kg	40.6	--	1	A
Aroclor 1268	ND		ug/kg	40.6	--	1	A
PCBs, Total	ND		ug/kg	40.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	B
Decachlorobiphenyl	68		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	63		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/02/22 14:42
Analyst: AD

Extraction Method: EPA 3546
Extraction Date: 08/02/22 01:25
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1669957-1						
Aroclor 1016	ND		ug/kg	32.3	--	A
Aroclor 1221	ND		ug/kg	32.3	--	A
Aroclor 1232	ND		ug/kg	32.3	--	A
Aroclor 1242	ND		ug/kg	32.3	--	A
Aroclor 1248	ND		ug/kg	32.3	--	A
Aroclor 1254	ND		ug/kg	32.3	--	A
Aroclor 1260	ND		ug/kg	32.3	--	A
Aroclor 1262	ND		ug/kg	32.3	--	A
Aroclor 1268	ND		ug/kg	32.3	--	A
PCBs, Total	ND		ug/kg	32.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	B
Decachlorobiphenyl	79		30-150	B
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	79		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2241084

Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1669957-2 WG1669957-3									
Aroclor 1016	83		77		40-140	8		30	A
Aroclor 1260	77		71		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		80		30-150	B
Decachlorobiphenyl	81		75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	88		80		30-150	A
Decachlorobiphenyl	83		77		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2241084
Project Number: 134206-007
Report Date: 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01
Client ID: HA22-TP1_5-8
Sample Location: BOSTON, MA

Date Collected: 08/01/22 13:10
Date Received: 08/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.47	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Arsenic, Total	2.60		mg/kg	0.494	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Barium, Total	16.5		mg/kg	0.494	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Beryllium, Total	0.257		mg/kg	0.247	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.494	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Chromium, Total	13.1		mg/kg	0.494	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Lead, Total	5.76		mg/kg	2.47	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.090	--	1	08/02/22 16:43	08/04/22 12:44	EPA 7471B	97,7471B	DMB
Nickel, Total	9.83		mg/kg	1.24	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.47	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.494	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.47	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Vanadium, Total	18.3		mg/kg	0.494	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC
Zinc, Total	27.2		mg/kg	2.47	--	1	08/02/22 16:18	08/04/22 20:03	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241084

Project Number: 134206-007 **Report Date:** 08/05/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1670155-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	08/02/22 16:18	08/04/22 18:47	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1670157-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/02/22 16:43	08/04/22 11:58	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1670155-2 WG1670155-3 SRM Lot Number: D113-540								
Antimony, Total	153		147		20-250	4		30
Arsenic, Total	101		97		70-130	4		30
Barium, Total	92		91		75-125	1		30
Beryllium, Total	106		98		75-125	8		30
Cadmium, Total	97		93		75-125	4		30
Chromium, Total	98		95		70-130	3		30
Lead, Total	95		94		72-128	1		30
Nickel, Total	98		96		70-130	2		30
Selenium, Total	101		98		66-134	3		30
Silver, Total	98		96		70-131	2		30
Thallium, Total	96		93		70-130	3		30
Vanadium, Total	98		94		74-126	4		30
Zinc, Total	96		94		70-130	2		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1670157-2 WG1670157-3 SRM Lot Number: D113-540								
Mercury, Total	96		96		60-140	0		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

SAMPLE RESULTS

Lab ID:	L2241084-01	Date Collected:	08/01/22 13:10
Client ID:	HA22-TP1_5-8	Date Received:	08/01/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/02/22 08:21	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

SAMPLE RESULTS

Lab ID: L2241084-01
Client ID: HA22-TP1_5-8
Sample Location: BOSTON, MA

Date Collected: 08/01/22 13:10
Date Received: 08/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	87		umhos/cm	10	--	1	-	08/02/22 08:05	1,9050A	GB
Solids, Total	80.0		%	0.100	NA	1	-	08/02/22 09:05	121,2540G	RI
pH (H)	7.2		SU	-	NA	1	-	08/02/22 03:31	1,9045D	GB
Cyanide, Reactive	ND		mg/kg	130	--	1	08/03/22 15:30	08/03/22 21:33	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	08/03/22 15:30	08/03/22 21:07	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2241084
Report Date: 08/05/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1670831-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/03/22 15:30	08/03/22 21:01	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1670833-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/03/22 15:30	08/03/22 21:29	125,7.3	RM

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1669945-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1669946-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1670831-2								
Sulfide, Reactive	125		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1670833-2								
Cyanide, Reactive	87		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2241084

Report Date: 08/05/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1670052-1 QC Sample: L2241084-01 Client ID: HA22-TP1_5-8						
Solids, Total	80.0	79.9	%	0		20

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241084
Report Date: 08/05/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2241084-01A	Vial MeOH preserved	B	NA		2.8	Y	Absent		MCP-8260HLW-21(14)
L2241084-01B	Vial water preserved	B	NA		2.8	Y	Absent	01-AUG-22 21:54	MCP-8260HLW-21(14)
L2241084-01C	Vial water preserved	B	NA		2.8	Y	Absent	01-AUG-22 21:54	MCP-8260HLW-21(14)
L2241084-01D	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		TS(7)
L2241084-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2241084-01F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		2.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2241084-01G	Vial Large Septa unpreserved (4oz)	B	NA		2.8	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2241084-01H	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2241084-01I	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241084
Project Number:	134206-007	**Report Date:**	08/05/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page ___ of ___

Date Rec'd in Lab: 8/1/22

ALPHA Job #: L2241084

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total # Bottles
41084 01	HA22-TP1-5-8	8/1/22	1310	SOIL	AF	5-8	x	x	x	x	x	x	x	x	VOCs @ 6.5	9

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	8/1/22	[illegible]	8/1
[illegible]	8/1 16:30	[illegible] AHL	8/1/22 1630
[illegible] AHL	8/1/22 1800	[illegible]	8/1/22 1800

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2241084
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1671265-5	**Lab File ID**	: V23220803A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 08/03/22 08:53

Client Sample No.	Lab Sample ID	Analysis Date
WG1671265-3LCS	WG1671265-3	08/03/22 07:35
WG1671265-4LCSD	WG1671265-4	08/03/22 08:01
HA22-TP1_5-8	L2241084-01	08/03/22 09:19

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2241084
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA123	Calibration Date	: 08/03/22 07:09
Lab File ID	: V23220803A01	Init. Calib. Date(s)	: 07/18/22 07/19/22
Sample No	: WG1671265-2	Init. Calib. Times	: 09:59 08:05
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	121	0
Dichlorodifluoromethane	0.205	0.293	-	-42.9*	20	186	0
Chloromethane	0.29	0.328	-	-13.1	20	148	0
Vinyl chloride	0.308	0.32	-	-3.9	20	133	0
Bromomethane	0.301	0.254	-	15.6	20	118	0
Chloroethane	0.231	0.212	-	8.2	20	124	0
Trichlorofluoromethane	0.534	0.54	-	-1.1	20	132	0
Ethyl ether	0.128	0.119	-	7	20	115	0
1,1-Dichloroethene	0.242	0.243	-	-0.4	20	127	0
Carbon disulfide	0.76	0.707	-	7	20	125	0
Freon-113	0.272	0.276	-	-1.5	20	133	0
Acrolein	0.027	0.023	-	14.8	20	107	0
Methylene chloride	0.311	0.281	-	9.6	20	121	0
Acetone	0.061	0.069	-	-13.1	20	150	0
trans-1,2-Dichloroethene	0.293	0.28	-	4.4	20	123	0
Methyl acetate	0.166	0.141	-	15.1	20	110	0
Methyl tert-butyl ether	0.671	0.6	-	10.6	20	110	0
tert-Butyl alcohol	0.023	0.018	-	21.7*	20	89	0
Diisopropyl ether	0.937	0.898	-	4.2	20	118	0
1,1-Dichloroethane	0.506	0.479	-	5.3	20	121	0
Halothane	0.24	0.226	-	5.8	20	121	0
Acrylonitrile	0.071	0.062	-	12.7	20	106	0
Ethyl tert-butyl ether	0.823	0.761	-	7.5	20	113	0
Vinyl acetate	0.629	0.615	-	2.2	20	128	0
cis-1,2-Dichloroethene	0.343	0.308	-	10.2	20	113	0
2,2-Dichloropropane	0.44	0.439	-	0.2	20	130	0
Bromochloromethane	0.168	0.158	-	6	20	117	0
Cyclohexane	0.452	0.438	-	3.1	20	122	0
Chloroform	0.557	0.52	-	6.6	20	117	0
Ethyl acetate	0.245	0.208	-	15.1	20	105	0
Carbon tetrachloride	0.458	0.448	-	2.2	20	127	0
Tetrahydrofuran	0.074	0.06	-	18.9	20	99	0
Dibromofluoromethane	0.275	0.267	-	2.9	20	117	0
1,1,1-Trichloroethane	0.461	0.459	-	0.4	20	125	0
2-Butanone	0.117	0.092	-	21.4*	20	94	0
1,1-Dichloropropene	0.372	0.356	-	4.3	20	120	0
Benzene	1.192	1.069	-	10.3	20	113	0
tert-Amyl methyl ether	0.765	0.663	-	13.3	20	104	0
1,2-Dichloroethane-d4	0.236	0.24	-	-1.7	20	124	0
1,2-Dichloroethane	0.366	0.341	-	6.8	20	117	0
Methyl cyclohexane	0.518	0.476	-	8.1	20	116	-.01
Trichloroethene	0.336	0.305	-	9.2	20	114	0
Dibromomethane	0.191	0.166	-	13.1	20	108	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2241084
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA123	Calibration Date	: 08/03/22 07:09
Lab File ID	: V23220803A01	Init. Calib. Date(s)	: 07/18/22 07/19/22
Sample No	: WG1671265-2	Init. Calib. Times	: 09:59 08:05
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.31	0.272	-	12.3	20	109	0
2-Chloroethyl vinyl ether	0.162	0.123	-	24.1*	20	89	0
Bromodichloromethane	0.436	0.396	-	9.2	20	112	0
1,4-Dioxane	2000	1633.633	-	18.3	20	119	0
cis-1,3-Dichloropropene	0.492	0.444	-	9.8	20	109	0
Chlorobenzene-d5	1	1	-	0	20	111	-.01
Toluene-d8	1.236	1.269	-	-2.7	20	114	-.01
Toluene	0.963	0.905	-	6	20	109	0
4-Methyl-2-pentanone	0.104	0.085	-	18.3	20	89	0
Tetrachloroethene	0.421	0.43	-	-2.1	20	114	-.01
trans-1,3-Dichloropropene	0.528	0.505	-	4.4	20	106	-.01
Ethyl methacrylate	0.374	0.329	-	12	20	92	0
1,1,2-Trichloroethane	0.267	0.241	-	9.7	20	102	-.01
Chlorodibromomethane	0.418	0.401	-	4.1	20	104	0
1,3-Dichloropropane	0.512	0.465	-	9.2	20	102	-.01
1,2-Dibromoethane	0.317	0.292	-	7.9	20	101	0
2-Hexanone	0.21	0.171	-	18.6	20	88	-.01
Chlorobenzene	1.183	1.096	-	7.4	20	106	-.01
Ethylbenzene	1.858	1.774	-	4.5	20	108	-.01
1,1,1,2-Tetrachloroethane	0.45	0.437	-	2.9	20	106	-.01
p/m Xylene	0.756	0.748	-	1.1	20	109	-.01
o Xylene	0.739	0.725	-	1.9	20	107	-.01
Styrene	80	69.89	-	12.6	20	103	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	105	-.01
Bromoform	0.455	0.41	-	9.9	20	92	-.01
Isopropylbenzene	3.275	3.164	-	3.4	20	106	-.01
4-Bromofluorobenzene	0.743	0.719	-	3.2	20	108	-.01
Bromobenzene	0.884	0.822	-	7	20	102	0
n-Propylbenzene	3.899	3.811	-	2.3	20	110	0
1,4-Dichlorobutane	0.917	0.806	-	12.1	20	98	-.01
1,1,2,2-Tetrachloroethane	0.721	0.596	-	17.3	20	92	-.01
4-Ethyltoluene	3.323	3.268	-	1.7	20	108	0
2-Chlorotoluene	2.324	2.249	-	3.2	20	108	-.01
1,3,5-Trimethylbenzene	2.822	2.815	-	0.2	20	108	0
1,2,3-Trichloropropane	0.542	0.462	-	14.8	20	94	-.01
trans-1,4-Dichloro-2-buten	0.204	0.186	-	8.8	20	96	-.01
4-Chlorotoluene	2.369	2.305	-	2.7	20	107	0
tert-Butylbenzene	2.528	2.502	-	1	20	106	-.01
1,2,4-Trimethylbenzene	2.842	2.825	-	0.6	20	106	-.01
sec-Butylbenzene	3.824	3.798	-	0.7	20	107	-.01
p-Isopropyltoluene	3.316	3.383	-	-2	20	108	-.01
1,3-Dichlorobenzene	1.854	1.805	-	2.6	20	104	-.01
1,4-Dichlorobenzene	1.901	1.814	-	4.6	20	103	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2241084
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA123	Calibration Date	: 08/03/22 07:09
Lab File ID	: V23220803A01	Init. Calib. Date(s)	: 07/18/22 07/19/22
Sample No	: WG1671265-2	Init. Calib. Times	: 09:59 08:05
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	2.049	2.047	-	0.1	20	106	0
n-Butylbenzene	2.993	3.018	-	-0.8	20	108	-.01
1,2-Dichlorobenzene	1.759	1.655	-	5.9	20	98	-.01
1,2,4,5-Tetramethylbenzene	3.215	3.211	-	0.1	20	101	0
1,2-Dibromo-3-chloropropan	0.121	0.1	-	17.4	20	78	0
1,3,5-Trichlorobenzene	1.408	1.362	-	3.3	20	102	0
Hexachlorobutadiene	0.698	0.633	-	9.3	20	100	-.01
1,2,4-Trichlorobenzene	1.255	1.182	-	5.8	20	97	-.01
Naphthalene	2.567	2.228	-	13.2	20	84	-.01
1,2,3-Trichlorobenzene	1.14	1.024	-	10.2	20	92	-.01

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2241779
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/12/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2241779-01	HA22-B6A_5-10	SOIL	BOSTON, MA	08/03/22 13:40	08/03/22
L2241779-02	HA22-B6A_10-15	SOIL	BOSTON, MA	08/03/22 14:20	08/03/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2241779-02: The surrogate recovery is below the acceptance criteria for dibromofluoromethane (64%), possibly due to the matrix effect caused by the high pH of the sample (>10).

L2241779-01 and -02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0025)

Average Response Factor: 1,4-dioxane

L2241779-01 and -02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2241779-01D: The sample has elevated detection limits due to the dilution required by the sample matrix.

L2241779-01D and -02: The initial calibration utilized a quadratic fit for m-Toluidine, 2,6-Dinitrotoluene, 2,4-Dinitrotoluene, and Pentachlorophenol.

WG1671248-2/-3: The initial calibration utilized a quadratic fit for 2,4-Dinitrophenol

In reference to question G:

L2241779-01D: One or more of the target analytes did not achieve the requested CAM reporting limits.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 08/12/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	HA22-B6A_10-15	L2241779-02	Dibromofluoromethane	Surrogate	64	70-130	-	potential low bias
8260D	Batch QC	WG1671722-3	Dichlorodifluoromethane	LCS	138	70-130	01-02	potential high bias
8260D	Batch QC	WG1671722-4	Dichlorodifluoromethane	LCSD	132	70-130	01-02	potential high bias
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1671248-2	4-Nitrophenol	LCS	131	30-130	01-02	potential high bias
8270E	Batch QC	WG1671248-2	2,4-Dinitrophenol	LCS	14	30-130	01-02	potential low bias
8270E	Batch QC	WG1671248-2	2-Fluorophenol	Surrogate	133	30-130	-	potential high bias
8270E	Batch QC	WG1671248-2	Phenol-d6	Surrogate	133	30-130	-	potential high bias
8270E	Batch QC	WG1671248-2	Nitrobenzene-d5	Surrogate	155	30-130	-	potential high bias
8270E	Batch QC	WG1671248-2	2,4,6-Tribromophenol	Surrogate	147	30-130	-	potential high bias
8270E	Batch QC	WG1671248-3	4-Bromophenyl phenyl ether	LCSD	32	30	01-02	non-directional bias
8270E	Batch QC	WG1671248-3	Hexachlorobutadiene	LCSD	32	30	01-02	non-directional bias
8270E	Batch QC	WG1671248-3	2,4-Dinitrophenol	LCSD	10	30-130	01-02	potential low bias
8270E	Batch QC	WG1671248-3	2,4-Dinitrophenol	LCSD	33	30	01-02	non-directional bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01
Client ID: HA22-B6A_5-10
Sample Location: BOSTON, MA

Date Collected: 08/03/22 13:40
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/05/22 12:12
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.88	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.88	--	1
1,2-Dichloropropane	ND		ug/kg	0.88	--	1
Dibromochloromethane	ND		ug/kg	0.88	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.88	--	1
Tetrachloroethene	ND		ug/kg	0.44	--	1
Chlorobenzene	ND		ug/kg	0.44	--	1
Trichlorofluoromethane	ND		ug/kg	3.5	--	1
1,2-Dichloroethane	ND		ug/kg	0.88	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	--	1
Bromodichloromethane	ND		ug/kg	0.44	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.88	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	--	1
1,1-Dichloropropene	ND		ug/kg	0.44	--	1
Bromoform	ND		ug/kg	3.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Benzene	ND		ug/kg	0.44	--	1
Toluene	ND		ug/kg	0.88	--	1
Ethylbenzene	ND		ug/kg	0.88	--	1
Chloromethane	ND		ug/kg	3.5	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.88	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.88	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01 Date Collected: 08/03/22 13:40

Client ID: HA22-B6A_5-10 Date Received: 08/03/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.44	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.88	--	1
Xylenes, Total	ND		ug/kg	0.88	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.88	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.88	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.88	--	1
Dichlorodifluoromethane	ND		ug/kg	8.8	--	1
Acetone	ND		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.8	--	1
Methyl ethyl ketone	ND		ug/kg	8.8	--	1
Methyl isobutyl ketone	ND		ug/kg	8.8	--	1
2-Hexanone	ND		ug/kg	8.8	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.5	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.88	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.88	--	1
sec-Butylbenzene	ND		ug/kg	0.88	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	--	1
Hexachlorobutadiene	ND		ug/kg	3.5	--	1
Isopropylbenzene	ND		ug/kg	0.88	--	1
p-Isopropyltoluene	ND		ug/kg	0.88	--	1
Naphthalene	ND		ug/kg	3.5	--	1
n-Propylbenzene	ND		ug/kg	0.88	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01 Date Collected: 08/03/22 13:40

Client ID: HA22-B6A_5-10 Date Received: 08/03/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	70	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	89		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02
Client ID: HA22-B6A_10-15
Sample Location: BOSTON, MA

Date Collected: 08/03/22 14:20
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/05/22 12:32
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.88	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.88	--	1
1,2-Dichloropropane	ND		ug/kg	0.88	--	1
Dibromochloromethane	ND		ug/kg	0.88	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.88	--	1
Tetrachloroethene	ND		ug/kg	0.44	--	1
Chlorobenzene	ND		ug/kg	0.44	--	1
Trichlorofluoromethane	ND		ug/kg	3.5	--	1
1,2-Dichloroethane	ND		ug/kg	0.88	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	--	1
Bromodichloromethane	ND		ug/kg	0.44	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.88	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	--	1
1,1-Dichloropropene	ND		ug/kg	0.44	--	1
Bromoform	ND		ug/kg	3.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Benzene	ND		ug/kg	0.44	--	1
Toluene	ND		ug/kg	0.88	--	1
Ethylbenzene	ND		ug/kg	0.88	--	1
Chloromethane	ND		ug/kg	3.5	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.88	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.88	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02 Date Collected: 08/03/22 14:20

Client ID: HA22-B6A_10-15 Date Received: 08/03/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.44	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.88	--	1
Xylenes, Total	ND		ug/kg	0.88	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.88	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.88	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.88	--	1
Dichlorodifluoromethane	ND		ug/kg	8.8	--	1
Acetone	ND		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.8	--	1
Methyl ethyl ketone	ND		ug/kg	8.8	--	1
Methyl isobutyl ketone	ND		ug/kg	8.8	--	1
2-Hexanone	ND		ug/kg	8.8	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.5	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.88	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.88	--	1
sec-Butylbenzene	ND		ug/kg	0.88	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	--	1
Hexachlorobutadiene	ND		ug/kg	3.5	--	1
Isopropylbenzene	ND		ug/kg	0.88	--	1
p-Isopropyltoluene	ND		ug/kg	0.88	--	1
Naphthalene	ND		ug/kg	3.5	--	1
n-Propylbenzene	ND		ug/kg	0.88	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02 Date Collected: 08/03/22 14:20

Client ID: HA22-B6A_10-15 Date Received: 08/03/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	71	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	**64**	Q	70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/05/22 08:14
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1671722-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/05/22 08:14
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1671722-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/05/22 08:14
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1671722-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1671722-3 WG1671722-4								
Methylene chloride	96		95		70-130	1		20
1,1-Dichloroethane	98		96		70-130	2		20
Chloroform	91		90		70-130	1		20
Carbon tetrachloride	90		88		70-130	2		20
1,2-Dichloropropane	95		94		70-130	1		20
Dibromochloromethane	88		86		70-130	2		20
1,1,2-Trichloroethane	94		94		70-130	0		20
Tetrachloroethene	92		91		70-130	1		20
Chlorobenzene	92		90		70-130	2		20
Trichlorofluoromethane	105		101		70-130	4		20
1,2-Dichloroethane	95		94		70-130	1		20
1,1,1-Trichloroethane	94		92		70-130	2		20
Bromodichloromethane	87		86		70-130	1		20
trans-1,3-Dichloropropene	92		90		70-130	2		20
cis-1,3-Dichloropropene	93		92		70-130	1		20
1,1-Dichloropropene	98		96		70-130	2		20
Bromoform	85		82		70-130	4		20
1,1,2,2-Tetrachloroethane	96		91		70-130	5		20
Benzene	94		92		70-130	2		20
Toluene	85		83		70-130	2		20
Ethylbenzene	90		89		70-130	1		20
Chloromethane	122		117		70-130	4		20
Bromomethane	105		101		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1671722-3 WG1671722-4								
Vinyl chloride	116		111		70-130	4		20
Chloroethane	113		110		70-130	3		20
1,1-Dichloroethene	103		98		70-130	5		20
trans-1,2-Dichloroethene	92		90		70-130	2		20
Trichloroethene	92		91		70-130	1		20
1,2-Dichlorobenzene	91		91		70-130	0		20
1,3-Dichlorobenzene	93		92		70-130	1		20
1,4-Dichlorobenzene	85		84		70-130	1		20
Methyl tert butyl ether	91		90		70-130	1		20
p/m-Xylene	90		89		70-130	1		20
o-Xylene	91		90		70-130	1		20
cis-1,2-Dichloroethene	88		84		70-130	5		20
Dibromomethane	92		90		70-130	2		20
1,2,3-Trichloropropane	98		96		70-130	2		20
Styrene	92		91		70-130	1		20
Dichlorodifluoromethane	**138**	Q	**132**	Q	70-130	4		20
Acetone	107		101		70-130	6		20
Carbon disulfide	105		102		70-130	3		20
Methyl ethyl ketone	96		90		70-130	6		20
Methyl isobutyl ketone	87		81		70-130	7		20
2-Hexanone	85		80		70-130	6		20
Bromochloromethane	89		89		70-130	0		20
Tetrahydrofuran	96		95		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1671722-3 WG1671722-4								
2,2-Dichloropropane	96		93		70-130	3		20
1,2-Dibromoethane	92		89		70-130	3		20
1,3-Dichloropropane	96		94		70-130	2		20
1,1,1,2-Tetrachloroethane	89		88		70-130	1		20
Bromobenzene	88		86		70-130	2		20
n-Butylbenzene	100		98		70-130	2		20
sec-Butylbenzene	96		94		70-130	2		20
tert-Butylbenzene	90		88		70-130	2		20
o-Chlorotoluene	92		91		70-130	1		20
p-Chlorotoluene	94		92		70-130	2		20
1,2-Dibromo-3-chloropropane	84		78		70-130	7		20
Hexachlorobutadiene	90		88		70-130	2		20
Isopropylbenzene	91		89		70-130	2		20
p-Isopropyltoluene	93		91		70-130	2		20
Naphthalene	84		82		70-130	2		20
n-Propylbenzene	95		94		70-130	1		20
1,2,3-Trichlorobenzene	92		89		70-130	3		20
1,2,4-Trichlorobenzene	89		88		70-130	1		20
1,3,5-Trimethylbenzene	92		91		70-130	1		20
1,2,4-Trimethylbenzene	91		90		70-130	1		20
Diethyl ether	96		90		70-130	6		20
Diisopropyl Ether	91		90		70-130	1		20
Ethyl-Tert-Butyl-Ether	90		91		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2241779

Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1671722-3 WG1671722-4								
Tertiary-Amyl Methyl Ether	85		84		70-130	1		20
1,4-Dioxane	80		75		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		106		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	95		96		70-130
Dibromofluoromethane	101		102		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01 D
Client ID: HA22-B6A_5-10
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/11/22 15:48
Analyst: WR
Percent Solids: 84%

Date Collected: 08/03/22 13:40
Date Received: 08/03/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/04/22 10:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	3200		ug/kg	1500	--	10
1,2,4-Trichlorobenzene	ND		ug/kg	1900	--	10
Hexachlorobenzene	ND		ug/kg	810	--	10
Bis(2-chloroethyl)ether	ND		ug/kg	810	--	10
2-Chloronaphthalene	ND		ug/kg	1900	--	10
1,2-Dichlorobenzene	ND		ug/kg	1900	--	10
1,3-Dichlorobenzene	ND		ug/kg	1900	--	10
1,4-Dichlorobenzene	ND		ug/kg	810	--	10
3,3'-Dichlorobenzidine	ND		ug/kg	1900	--	10
2,4-Dinitrotoluene	ND		ug/kg	810	--	10
2,6-Dinitrotoluene	ND		ug/kg	1900	--	10
Azobenzene	ND		ug/kg	1900	--	10
Fluoranthene	25000		ug/kg	1200	--	10
4-Bromophenyl phenyl ether	ND		ug/kg	1900	--	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	810	--	10
Bis(2-chloroethoxy)methane	ND		ug/kg	2100	--	10
Hexachlorobutadiene	ND		ug/kg	1900	--	10
Hexachloroethane	ND		ug/kg	810	--	10
Isophorone	ND		ug/kg	1700	--	10
Naphthalene	ND		ug/kg	1900	--	10
Nitrobenzene	ND		ug/kg	1700	--	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1900	--	10
Butyl benzyl phthalate	ND		ug/kg	1900	--	10
Di-n-butylphthalate	ND		ug/kg	1900	--	10
Di-n-octylphthalate	ND		ug/kg	1900	--	10
Diethyl phthalate	ND		ug/kg	1900	--	10
Dimethyl phthalate	ND		ug/kg	810	--	10
Benzo(a)anthracene	8800		ug/kg	1200	--	10

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01 D Date Collected: 08/03/22 13:40

Client ID: HA22-B6A_5-10 Date Received: 08/03/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	9900		ug/kg	1500	--	10
Benzo(b)fluoranthene	10000		ug/kg	1200	--	10
Benzo(k)fluoranthene	3700		ug/kg	1200	--	10
Chrysene	8800		ug/kg	1200	--	10
Acenaphthylene	ND		ug/kg	1500	--	10
Anthracene	5600		ug/kg	1200	--	10
Benzo(ghi)perylene	4900		ug/kg	1500	--	10
Fluorene	2800		ug/kg	1900	--	10
Phenanthrene	26000		ug/kg	1200	--	10
Dibenzo(a,h)anthracene	1000		ug/kg	810	--	10
Indeno(1,2,3-cd)pyrene	5500		ug/kg	1500	--	10
Pyrene	21000		ug/kg	1200	--	10
Aniline	ND		ug/kg	2300	--	10
4-Chloroaniline	ND		ug/kg	1900	--	10
Dibenzofuran	2200		ug/kg	1900	--	10
2-Methylnaphthalene	880		ug/kg	810	--	10
Acetophenone	ND		ug/kg	1900	--	10
2,4,6-Trichlorophenol	ND		ug/kg	810	--	10
2-Chlorophenol	ND		ug/kg	810	--	10
2,4-Dichlorophenol	ND		ug/kg	810	--	10
2,4-Dimethylphenol	ND		ug/kg	810	--	10
2-Nitrophenol	ND		ug/kg	4100	--	10
4-Nitrophenol	ND		ug/kg	2700	--	10
2,4-Dinitrophenol	ND		ug/kg	9200	--	10
Pentachlorophenol	ND		ug/kg	3800	--	10
Phenol	ND		ug/kg	1900	--	10
2-Methylphenol	ND		ug/kg	1900	--	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2800	--	10
2,4,5-Trichlorophenol	ND		ug/kg	1900	--	10
Pyridine	ND		ug/kg	2100	--	10
Biphenyl	ND		ug/kg	380	--	10

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID:	L2241779-01	D	Date Collected:	08/03/22 13:40
Client ID:	HA22-B6A_5-10		Date Received:	08/03/22
Sample Location:	BOSTON, MA		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		30-130
Phenol-d6	86		30-130
Nitrobenzene-d5	97		30-130
2-Fluorobiphenyl	91		30-130
2,4,6-Tribromophenol	66		30-130
4-Terphenyl-d14	88		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02
Client ID: HA22-B6A_10-15
Sample Location: BOSTON, MA

Date Collected: 08/03/22 14:20
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/11/22 06:20
Analyst: IM
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 08/04/22 10:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	81	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	81	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	81	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	81	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	81	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	81	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	81	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02 Date Collected: 08/03/22 14:20

Client ID: HA22-B6A_10-15 Date Received: 08/03/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	150	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	81	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	81	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	81	--	1
2-Chlorophenol	ND		ug/kg	81	--	1
2,4-Dichlorophenol	ND		ug/kg	81	--	1
2,4-Dimethylphenol	ND		ug/kg	81	--	1
2-Nitrophenol	ND		ug/kg	420	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	920	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	210	--	1
Biphenyl	ND		ug/kg	38	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02 Date Collected: 08/03/22 14:20

Client ID: HA22-B6A_10-15 Date Received: 08/03/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		30-130
Phenol-d6	92		30-130
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	101		30-130
2,4,6-Tribromophenol	62		30-130
4-Terphenyl-d14	91		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/09/22 16:21
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/04/22 10:30

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1671248-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/09/22 16:21
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/04/22 10:30

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1671248-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/09/22 16:21
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/04/22 10:30

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1671248-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	67		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	84		30-130
4-Terphenyl-d14	76		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1671248-2 WG1671248-3								
Acenaphthene	112		89		40-140	23		30
1,2,4-Trichlorobenzene	107		81		40-140	28		30
Hexachlorobenzene	110		82		40-140	29		30
Bis(2-chloroethyl)ether	114		89		40-140	25		30
2-Chloronaphthalene	104		80		40-140	26		30
1,2-Dichlorobenzene	106		83		40-140	24		30
1,3-Dichlorobenzene	104		82		40-140	24		30
1,4-Dichlorobenzene	105		82		40-140	25		30
3,3'-Dichlorobenzidine	111		88		40-140	23		30
2,4-Dinitrotoluene	118		92		40-140	25		30
2,6-Dinitrotoluene	112		86		40-140	26		30
Azobenzene	124		103		40-140	19		30
Fluoranthene	121		95		40-140	24		30
4-Bromophenyl phenyl ether	116		84		40-140	**32**	Q	30
Bis(2-chloroisopropyl)ether	120		96		40-140	22		30
Bis(2-chloroethoxy)methane	118		94		40-140	23		30
Hexachlorobutadiene	112		81		40-140	**32**	Q	30
Hexachloroethane	105		81		40-140	26		30
Isophorone	115		92		40-140	22		30
Naphthalene	111		87		40-140	24		30
Nitrobenzene	139		110		40-140	23		30
Bis(2-ethylhexyl)phthalate	135		109		40-140	21		30
Butyl benzyl phthalate	138		106		40-140	26		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1671248-2 WG1671248-3								
Di-n-butylphthalate	131		101		40-140	26		30
Di-n-octylphthalate	139		112		40-140	22		30
Diethyl phthalate	119		93		40-140	25		30
Dimethyl phthalate	106		80		40-140	28		30
Benzo(a)anthracene	116		90		40-140	25		30
Benzo(a)pyrene	115		97		40-140	17		30
Benzo(b)fluoranthene	117		99		40-140	17		30
Benzo(k)fluoranthene	108		93		40-140	15		30
Chrysene	113		87		40-140	26		30
Acenaphthylene	109		84		40-140	26		30
Anthracene	117		90		40-140	26		30
Benzo(ghi)perylene	127		97		40-140	27		30
Fluorene	117		91		40-140	25		30
Phenanthrene	113		87		40-140	26		30
Dibenzo(a,h)anthracene	118		93		40-140	24		30
Indeno(1,2,3-cd)pyrene	137		109		40-140	23		30
Pyrene	118		93		40-140	24		30
Aniline	81		67		40-140	19		30
4-Chloroaniline	110		99		40-140	11		30
Dibenzofuran	112		88		40-140	24		30
2-Methylnaphthalene	109		85		40-140	25		30
Acetophenone	113		90		40-140	23		30
2,4,6-Trichlorophenol	123		91		30-130	30		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1671248-2 WG1671248-3								
2-Chlorophenol	121		94		30-130	25		30
2,4-Dichlorophenol	117		92		30-130	24		30
2,4-Dimethylphenol	118		94		30-130	23		30
2-Nitrophenol	125		98		30-130	24		30
4-Nitrophenol	**131**	Q	110		30-130	17		30
2,4-Dinitrophenol	**14**	Q	**10**	Q	30-130	**33**	Q	30
Pentachlorophenol	119		95		30-130	22		30
Phenol	111		88		30-130	23		30
2-Methylphenol	121		96		30-130	23		30
3-Methylphenol/4-Methylphenol	120		97		30-130	21		30
2,4,5-Trichlorophenol	124		94		30-130	28		30
Pyridine	85		68		30-130	22		30
Biphenyl	106		82		40-140	26		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	**133**	Q	102		30-130
Phenol-d6	**133**	Q	104		30-130
Nitrobenzene-d5	**155**	Q	122		30-130
2-Fluorobiphenyl	112		86		30-130
2,4,6-Tribromophenol	**147**	Q	101		30-130
4-Terphenyl-d14	128		102		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01
Client ID: HA22-B6A_5-10
Sample Location: BOSTON, MA

Date Collected: 08/03/22 13:40
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/05/22 14:34
Analyst: JB
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 08/04/22 08:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	199000		ug/kg	39100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	69		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02
Client ID: HA22-B6A_10-15
Sample Location: BOSTON, MA

Date Collected: 08/03/22 14:20
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/05/22 14:34
Analyst: JB
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 08/04/22 08:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	39200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	76		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/05/22 09:55
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 08/04/22 08:59

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-02 Batch: WG1671177-1					
TPH (C10-C36)	ND		ug/kg	32900	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	67		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2241779

Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-02 Batch: WG1671177-2								
TPH (C10-C36)	86		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	68				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01
Client ID: HA22-B6A_5-10
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/05/22 12:03
Analyst: JM
Percent Solids: 84%

Date Collected: 08/03/22 13:40
Date Received: 08/03/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/04/22 07:49
Cleanup Method: EPA 3665A
Cleanup Date: 08/04/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/05/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.3	--	1	A
Aroclor 1221	ND		ug/kg	39.3	--	1	A
Aroclor 1232	ND		ug/kg	39.3	--	1	A
Aroclor 1242	ND		ug/kg	39.3	--	1	A
Aroclor 1248	ND		ug/kg	39.3	--	1	A
Aroclor 1254	ND		ug/kg	39.3	--	1	A
Aroclor 1260	ND		ug/kg	39.3	--	1	A
Aroclor 1262	ND		ug/kg	39.3	--	1	A
Aroclor 1268	ND		ug/kg	39.3	--	1	A
PCBs, Total	ND		ug/kg	39.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	57		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02
Client ID: HA22-B6A_10-15
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/05/22 12:11
Analyst: JM
Percent Solids: 85%

Date Collected: 08/03/22 14:20
Date Received: 08/03/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/04/22 07:49
Cleanup Method: EPA 3665A
Cleanup Date: 08/04/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/05/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.1	--	1	A
Aroclor 1221	ND		ug/kg	38.1	--	1	A
Aroclor 1232	ND		ug/kg	38.1	--	1	A
Aroclor 1242	ND		ug/kg	38.1	--	1	A
Aroclor 1248	ND		ug/kg	38.1	--	1	A
Aroclor 1254	ND		ug/kg	38.1	--	1	A
Aroclor 1260	ND		ug/kg	38.1	--	1	A
Aroclor 1262	ND		ug/kg	38.1	--	1	A
Aroclor 1268	ND		ug/kg	38.1	--	1	A
PCBs, Total	ND		ug/kg	38.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	61		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	58		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/05/22 10:28
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 08/04/22 07:48
Cleanup Method: EPA 3665A
Cleanup Date: 08/04/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/05/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG1671124-1						
Aroclor 1016	ND		ug/kg	32.0	--	A
Aroclor 1221	ND		ug/kg	32.0	--	A
Aroclor 1232	ND		ug/kg	32.0	--	A
Aroclor 1242	ND		ug/kg	32.0	--	A
Aroclor 1248	ND		ug/kg	32.0	--	A
Aroclor 1254	ND		ug/kg	32.0	--	A
Aroclor 1260	ND		ug/kg	32.0	--	A
Aroclor 1262	ND		ug/kg	32.0	--	A
Aroclor 1268	ND		ug/kg	32.0	--	A
PCBs, Total	ND		ug/kg	32.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	63		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	62		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG1671124-2 WG1671124-3									
Aroclor 1016	68		72		40-140	6		30	A
Aroclor 1260	64		67		40-140	5		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		78		30-150	B
Decachlorobiphenyl	65		69		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		77		30-150	A
Decachlorobiphenyl	67		72		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2241779
Project Number: 134206-007
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01
Client ID: HA22-B6A_5-10
Sample Location: BOSTON, MA

Date Collected: 08/03/22 13:40
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.34	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Arsenic, Total	4.72		mg/kg	0.468	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Barium, Total	46.9		mg/kg	0.468	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Beryllium, Total	0.243		mg/kg	0.234	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Cadmium, Total	0.856		mg/kg	0.468	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Chromium, Total	18.6		mg/kg	0.468	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Lead, Total	153		mg/kg	2.34	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Mercury, Total	1.46		mg/kg	0.095	--	1	08/04/22 10:46	08/07/22 15:02	EPA 7471B	97,7471B	AW
Nickel, Total	8.02		mg/kg	1.17	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Selenium, Total	ND		mg/kg	2.34	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Silver, Total	ND		mg/kg	0.468	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Thallium, Total	ND		mg/kg	2.34	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Vanadium, Total	15.6		mg/kg	0.468	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL
Zinc, Total	245		mg/kg	2.34	--	1	08/04/22 09:10	08/09/22 01:08	EPA 3050B	97,6010D	DL

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2241779
Project Number: 134206-007
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02
Client ID: HA22-B6A_10-15
Sample Location: BOSTON, MA

Date Collected: 08/03/22 14:20
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.29	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Arsenic, Total	1.88		mg/kg	0.458	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Barium, Total	14.3		mg/kg	0.458	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Beryllium, Total	ND		mg/kg	0.229	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Cadmium, Total	ND		mg/kg	0.458	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Chromium, Total	35.6		mg/kg	0.458	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Lead, Total	7.58		mg/kg	2.29	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Mercury, Total	ND		mg/kg	0.095	--	1	08/04/22 10:46	08/07/22 14:55	EPA 7471B	97,7471B	AW
Nickel, Total	5.12		mg/kg	1.14	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Selenium, Total	ND		mg/kg	2.29	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Silver, Total	ND		mg/kg	0.458	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Thallium, Total	ND		mg/kg	2.29	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Vanadium, Total	11.6		mg/kg	0.458	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL
Zinc, Total	19.6		mg/kg	2.29	--	1	08/04/22 09:10	08/09/22 01:22	EPA 3050B	97,6010D	DL

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2241779

Project Number: 134206-007 **Report Date:** 08/12/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1671112-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Arsenic, Total	ND		mg/kg	0.400	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Barium, Total	ND		mg/kg	0.400	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Beryllium, Total	ND		mg/kg	0.200	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Cadmium, Total	ND		mg/kg	0.400	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Chromium, Total	ND		mg/kg	0.400	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Lead, Total	ND		mg/kg	2.00	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Nickel, Total	ND		mg/kg	1.00	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Selenium, Total	ND		mg/kg	2.00	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Silver, Total	ND		mg/kg	0.400	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Thallium, Total	ND		mg/kg	2.00	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Vanadium, Total	ND		mg/kg	0.400	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL
Zinc, Total	ND		mg/kg	2.00	--	1	08/04/22 09:10	08/08/22 23:28	97,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1671114-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/04/22 10:46	08/07/22 13:47	97,7471B	AW

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1671112-2 WG1671112-3 SRM Lot Number: D113-540								
Antimony, Total	122		122		20-250	0		30
Arsenic, Total	89		89		70-130	0		30
Barium, Total	82		87		75-125	6		30
Beryllium, Total	88		91		75-125	3		30
Cadmium, Total	83		85		75-125	2		30
Chromium, Total	85		84		70-130	1		30
Lead, Total	79		78		72-128	1		30
Nickel, Total	83		82		70-130	1		30
Selenium, Total	86		85		66-134	1		30
Silver, Total	84		98		70-131	15		30
Thallium, Total	77		79		70-130	3		30
Vanadium, Total	82		81		74-126	1		30
Zinc, Total	80		80		70-130	0		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1671114-2 WG1671114-3 SRM Lot Number: D113-540								
Mercury, Total	97		96		60-140	1		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

SAMPLE RESULTS

Lab ID:	L2241779-01	Date Collected:	08/03/22 13:40
Client ID:	HA22-B6A_5-10	Date Received:	08/03/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/04/22 08:40	1,1030	PA

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

SAMPLE RESULTS

Lab ID:	L2241779-02	Date Collected:	08/03/22 14:20
Client ID:	HA22-B6A_10-15	Date Received:	08/03/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/04/22 08:40	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-01
Client ID: HA22-B6A_5-10
Sample Location: BOSTON, MA

Date Collected: 08/03/22 13:40
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	170		umhos/cm	10	--	1	-	08/08/22 12:58	1,9050A	KS
Solids, Total	84.0		%	0.100	NA	1	-	08/04/22 08:27	121,2540G	RI
pH (H)	9.8		SU	-	NA	1	-	08/05/22 12:05	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/08/22 08:00	08/08/22 11:52	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/08/22 08:00	08/08/22 11:22	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

SAMPLE RESULTS

Lab ID: L2241779-02
Client ID: HA22-B6A_10-15
Sample Location: BOSTON, MA

Date Collected: 08/03/22 14:20
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	190		umhos/cm	10	--	1	-	08/08/22 12:58	1,9050A	KS
Solids, Total	84.5		%	0.100	NA	1	-	08/04/22 08:27	121,2540G	RI
pH (H)	9.1		SU	-	NA	1	-	08/05/22 12:05	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/08/22 08:00	08/08/22 11:53	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/08/22 08:00	08/08/22 11:22	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2241779
Report Date: 08/12/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1671733-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/08/22 08:00	08/08/22 11:15	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1672364-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/08/22 08:00	08/08/22 11:46	125,7.3	MJ

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1671688-1								
pH	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1671733-2								
Sulfide, Reactive	108		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1672364-2								
Cyanide, Reactive	58		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1672439-1								
Specific Conductance	100		-		99-101	-		

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2241779-01A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2241779-01B	Vial water preserved	A	NA		2.7	Y	Absent	04-AUG-22 01:04	MCP-8260HLW-21(14)
L2241779-01C	Vial water preserved	A	NA		2.7	Y	Absent	04-AUG-22 01:04	MCP-8260HLW-21(14)
L2241779-01D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2241779-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2241779-01F	Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2241779-01G	Vial Large Septa unpreserved (4oz)	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2241779-01H	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2241779-01I	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2241779-02A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2241779-02B	Vial water preserved	A	NA		2.7	Y	Absent	04-AUG-22 01:04	MCP-8260HLW-21(14)
L2241779-02C	Vial water preserved	A	NA		2.7	Y	Absent	04-AUG-22 01:04	MCP-8260HLW-21(14)
L2241779-02D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2241779
Report Date: 08/12/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2241779-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2241779-02F	Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2241779-02G	Vial Large Septa unpreserved (4oz)	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2241779-02H	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2241779-02I	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2241779
Project Number:	134206-007	**Report Date:**	08/12/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 8/3/22

ALPHA Job #: L2241779

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do

Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
41779-01	HA22-B6A-5-10	8/3/22	1340	SO/F	AF	5-10	x	x	x	x	x	x	x	x	VOCs@6.5	9
02	HA22-B6A-10-15	8/3/22	1420	SO/F	AF	10-15	X	X	X	X	X	X	X	X	VOCs@12.5	9

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	A	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	8/3/22	[illegible]	8/3
[illegible]	8/3 16:30	[illegible]	8/3/22 1630
[illegible]	8/3/22 1824	[illegible]	8/3/22 1824

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2241779
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1671722-5	**Lab File ID**	: V27220805A05
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 08/05/22 08:14

Client Sample No.	Lab Sample ID	Analysis Date
WG1671722-3LCS	WG1671722-3	08/05/22 07:15
WG1671722-4LCSD	WG1671722-4	08/05/22 07:34
HA22-B6A_5-10	L2241779-01	08/05/22 12:12
HA22-B6A_10-15	L2241779-02	08/05/22 12:32

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2241779
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA127	Calibration Date	: 08/05/22 06:55
Lab File ID	: V27220805A01	Init. Calib. Date(s)	: 07/06/22 07/06/22
Sample No	: WG1671722-2	Init. Calib. Times	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	73	0
Dichlorodifluoromethane	0.149	0.207	-	-38.9*	20	97	0
Chloromethane	0.16	0.212	-	-32.5*	20	96	0
Vinyl chloride	0.185	0.217	-	-17.3	20	81	0
Bromomethane	40	47.092	-	-17.7	20	83	0
Chloroethane	0.122	0.142	-	-16.4	20	84	0
Trichlorofluoromethane	0.316	0.329	-	-4.1	20	70	0
Ethyl ether	0.116	0.112	-	3.4	20	74	0
1,1-Dichloroethene	0.198	0.203	-	-2.5	20	70	0
Carbon disulfide	0.553	0.591	-	-6.9	20	76	0
Freon-113	0.209	0.212	-	-1.4	20	70	0
Acrolein	0.023	0.025	-	-8.7	20	78	0
Methylene chloride	40	40.563	-	-1.4	20	73	0
Acetone	40	35.445	-	11.4	20	61	0
trans-1,2-Dichloroethene	0.249	0.227	-	8.8	20	67	0
Methyl acetate	0.117	0.116	-	0.9	20	74	-.01
Methyl tert-butyl ether	0.608	0.55	-	9.5	20	66	0
tert-Butyl alcohol	0.031	0.021	-	32.3*	20	54	-.01
Diisopropyl ether	0.613	0.58	-	5.4	20	68	0
1,1-Dichloroethane	0.378	0.378	-	0	20	72	-.01
Halothane	0.198	0.18	-	9.1	20	66	-.01
Acrylonitrile	40	39.872	-	0.3	20	71	-.02
Ethyl tert-butyl ether	0.67	0.616	-	8.1	20	65	-.01
Vinyl acetate	0.465	0.418	-	10.1	20	64	-.01
cis-1,2-Dichloroethene	0.289	0.264	-	8.7	20	68	-.01
2,2-Dichloropropane	0.369	0.359	-	2.7	20	68	-.01
Bromochloromethane	0.143	0.133	-	7	20	66	-.01
Cyclohexane	0.325	0.305	-	6.2	20	65	-.01
Chloroform	0.454	0.43	-	5.3	20	70	-.01
Ethyl acetate	0.183	0.165	-	9.8	20	64	0
Carbon tetrachloride	0.337	0.302	-	10.4	20	63	-.01
Tetrahydrofuran	40	35.765	-	10.6	20	64	0
Dibromofluoromethane	0.253	0.255	-	-0.8	20	74	0
1,1,1-Trichloroethane	0.362	0.346	-	4.4	20	66	0
2-Butanone	0.084	0.073	-	13.1	20	65	-.01
1,1-Dichloropropene	0.293	0.287	-	2	20	65	-.01
Benzene	0.968	0.928	-	4.1	20	69	-.01
tert-Amyl methyl ether	0.7	0.593	-	15.3	20	61	0
1,2-Dichloroethane-d4	0.246	0.251	-	-2	20	75	-.01
1,2-Dichloroethane	0.299	0.292	-	2.3	20	70	0
Methyl cyclohexane	0.415	0.375	-	9.6	20	62	0
Trichloroethene	0.273	0.253	-	7.3	20	67	0
Dibromomethane	0.157	0.145	-	7.6	20	67	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2241779
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA127	Calibration Date	: 08/05/22 06:55
Lab File ID	: V27220805A01	Init. Calib. Date(s)	: 07/06/22 07/06/22
Sample No	: WG1671722-2	Init. Calib. Times	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.232	0.227	-	2.2	20	70	-.01
2-Chloroethyl vinyl ether	0.149	0.115	-	22.8*	20	56	0
Bromodichloromethane	0.361	0.326	-	9.7	20	67	0
1,4-Dioxane	0.00271	0.00195*	-	28*	20	51	0
cis-1,3-Dichloropropene	0.405	0.389	-	4	20	67	0
Chlorobenzene-d5	1	1	-	0	20	71	0
Toluene-d8	1.259	1.264	-	-0.4	20	72	0
Toluene	0.871	0.764	-	12.3	20	67	0
4-Methyl-2-pentanone	0.106	0.085	-	19.8	20	58	0
Tetrachloroethene	0.405	0.381	-	5.9	20	62	0
trans-1,3-Dichloropropene	0.468	0.443	-	5.3	20	66	0
Ethyl methacrylate	0.393	0.335	-	14.8	20	60	0
1,1,2-Trichloroethane	0.23	0.223	-	3	20	70	0
Chlorodibromomethane	0.359	0.326	-	9.2	20	63	0
1,3-Dichloropropane	0.456	0.451	-	1.1	20	69	0
1,2-Dibromoethane	0.293	0.268	-	8.5	20	64	0
2-Hexanone	0.181	0.136	-	24.9*	20	56	0
Chlorobenzene	0.929	0.887	-	4.5	20	66	0
Ethylbenzene	1.506	1.4	-	7	20	65	0
1,1,1,2-Tetrachloroethane	0.359	0.338	-	5.8	20	65	0
p/m Xylene	0.604	0.567	-	6.1	20	66	0
o Xylene	0.579	0.552	-	4.7	20	66	0
Styrene	0.956	0.916	-	4.2	20	66	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	71	0
Bromoform	0.483	0.413	-	14.5	20	59	0
Isopropylbenzene	2.743	2.553	-	6.9	20	64	0
4-Bromofluorobenzene	0.828	0.791	-	4.5	20	69	0
Bromobenzene	0.809	0.736	-	9	20	63	0
n-Propylbenzene	3.053	3.014	-	1.3	20	67	0
1,4-Dichlorobutane	0.712	0.747	-	-4.9	20	75	0
1,1,2,2-Tetrachloroethane	0.632	0.607	-	4	20	70	0
4-Ethyltoluene	2.66	2.547	-	4.2	20	66	0
2-Chlorotoluene	1.914	1.808	-	5.5	20	67	0
1,3,5-Trimethylbenzene	2.301	2.197	-	4.5	20	65	0
1,2,3-Trichloropropane	0.519	0.48	-	7.5	20	65	0
trans-1,4-Dichloro-2-buten	0.178	0.163	-	8.4	20	69	0
4-Chlorotoluene	1.947	1.897	-	2.6	20	68	0
tert-Butylbenzene	2.057	1.883	-	8.5	20	63	0
1,2,4-Trimethylbenzene	2.305	2.208	-	4.2	20	67	0
sec-Butylbenzene	2.908	2.847	-	2.1	20	65	0
p-Isopropyltoluene	2.585	2.455	-	5	20	64	0
1,3-Dichlorobenzene	1.487	1.438	-	3.3	20	68	0
1,4-Dichlorobenzene	1.609	1.436	-	10.8	20	67	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2241779
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA127	Calibration Date	: 08/05/22 06:55
Lab File ID	: V27220805A01	Init. Calib. Date(s)	: 07/06/22 07/06/22
Sample No	: WG1671722-2	Init. Calib. Times	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.572	1.451	-	7.7	20	64	0
n-Butylbenzene	2.13	2.188	-	-2.7	20	69	0
1,2-Dichlorobenzene	1.406	1.342	-	4.6	20	67	0
1,2,4,5-Tetramethylbenzene	2.498	2.193	-	12.2	20	61	0
1,2-Dibromo-3-chloropropan	0.135	0.109	-	19.3	20	56	0
1,3,5-Trichlorobenzene	1.218	1.167	-	4.2	20	68	0
Hexachlorobutadiene	0.675	0.618	-	8.4	20	63	0
1,2,4-Trichlorobenzene	1.111	1.017	-	8.5	20	65	0
Naphthalene	2.306	1.885	-	18.3	20	59	0
1,2,3-Trichlorobenzene	1.033	0.96	-	7.1	20	66	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2242111
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/15/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2242111-01	HA22-B6A_35-40	SOIL	BOSTON, MA	08/04/22 08:35	08/04/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2242111-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0025)

Average Response Factor: 1,4-dioxane

L2242111-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 08/15/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1672569-4	Acetone	LCSD	132	70-130	01	potential high bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01
Client ID: HA22-B6A_35-40
Sample Location: BOSTON, MA

Date Collected: 08/04/22 08:35
Date Received: 08/04/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/07/22 18:01
Analyst: NLK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.53	--	1
Chlorobenzene	ND		ug/kg	0.53	--	1
Trichlorofluoromethane	ND		ug/kg	4.2	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	--	1
Bromodichloromethane	ND		ug/kg	0.53	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.53	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.53	--	1
1,1-Dichloropropene	ND		ug/kg	0.53	--	1
Bromoform	ND		ug/kg	4.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	--	1
Benzene	ND		ug/kg	0.53	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.2	--	1
Bromomethane	ND		ug/kg	2.1	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.1	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01 Date Collected: 08/04/22 08:35

Client ID: HA22-B6A_35-40 Date Received: 08/04/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.53	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	--	1
Methyl tert butyl ether	ND		ug/kg	2.1	--	1
p/m-Xylene	ND		ug/kg	2.1	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.1	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.1	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	ND		ug/kg	26	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.1	--	1
Tetrahydrofuran	ND		ug/kg	4.2	--	1
2,2-Dichloropropane	ND		ug/kg	2.1	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.1	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.53	--	1
Bromobenzene	ND		ug/kg	2.1	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.1	--	1
o-Chlorotoluene	ND		ug/kg	2.1	--	1
p-Chlorotoluene	ND		ug/kg	2.1	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	--	1
Hexachlorobutadiene	ND		ug/kg	4.2	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.2	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01 Date Collected: 08/04/22 08:35

Client ID: HA22-B6A_35-40 Date Received: 08/04/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.1	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	--	1
Diethyl ether	ND		ug/kg	2.1	--	1
Diisopropyl Ether	ND		ug/kg	2.1	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.1	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.1	--	1
1,4-Dioxane	ND		ug/kg	85	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/07/22 13:58
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1672569-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/07/22 13:58
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1672569-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/07/22 13:58
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1672569-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	95		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1672569-3 WG1672569-4								
Methylene chloride	89		91		70-130	2		20
1,1-Dichloroethane	89		89		70-130	0		20
Chloroform	85		85		70-130	0		20
Carbon tetrachloride	87		87		70-130	0		20
1,2-Dichloropropane	88		89		70-130	1		20
Dibromochloromethane	83		84		70-130	1		20
1,1,2-Trichloroethane	87		89		70-130	2		20
Tetrachloroethene	91		90		70-130	1		20
Chlorobenzene	88		87		70-130	1		20
Trichlorofluoromethane	98		100		70-130	2		20
1,2-Dichloroethane	88		89		70-130	1		20
1,1,1-Trichloroethane	90		90		70-130	0		20
Bromodichloromethane	81		81		70-130	0		20
trans-1,3-Dichloropropene	86		87		70-130	1		20
cis-1,3-Dichloropropene	87		88		70-130	1		20
1,1-Dichloropropene	95		94		70-130	1		20
Bromoform	82		81		70-130	1		20
1,1,2,2-Tetrachloroethane	85		87		70-130	2		20
Benzene	87		87		70-130	0		20
Toluene	80		80		70-130	0		20
Ethylbenzene	86		86		70-130	0		20
Chloromethane	106		104		70-130	2		20
Bromomethane	97		95		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2242111
Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1672569-3 WG1672569-4								
Vinyl chloride	104		104		70-130	0		20
Chloroethane	100		100		70-130	0		20
1,1-Dichloroethene	97		96		70-130	1		20
trans-1,2-Dichloroethene	87		86		70-130	1		20
Trichloroethene	90		88		70-130	2		20
1,2-Dichlorobenzene	87		86		70-130	1		20
1,3-Dichlorobenzene	88		86		70-130	2		20
1,4-Dichlorobenzene	81		79		70-130	3		20
Methyl tert butyl ether	87		89		70-130	2		20
p/m-Xylene	86		86		70-130	0		20
o-Xylene	87		86		70-130	1		20
cis-1,2-Dichloroethene	81		82		70-130	1		20
Dibromomethane	85		87		70-130	2		20
1,2,3-Trichloropropane	87		92		70-130	6		20
Styrene	86		86		70-130	0		20
Dichlorodifluoromethane	126		126		70-130	0		20
Acetone	128		**132**	Q	70-130	3		20
Carbon disulfide	95		95		70-130	0		20
Methyl ethyl ketone	94		103		70-130	9		20
Methyl isobutyl ketone	79		83		70-130	5		20
2-Hexanone	81		86		70-130	6		20
Bromochloromethane	84		83		70-130	1		20
Tetrahydrofuran	88		90		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1672569-3 WG1672569-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
2,2-Dichloropropane	86		89		70-130	3		20
1,2-Dibromoethane	86		88		70-130	2		20
1,3-Dichloropropane	90		90		70-130	0		20
1,1,1,2-Tetrachloroethane	85		85		70-130	0		20
Bromobenzene	85		83		70-130	2		20
n-Butylbenzene	94		91		70-130	3		20
sec-Butylbenzene	92		90		70-130	2		20
tert-Butylbenzene	88		84		70-130	5		20
o-Chlorotoluene	88		98		70-130	11		20
p-Chlorotoluene	89		87		70-130	2		20
1,2-Dibromo-3-chloropropane	80		80		70-130	0		20
Hexachlorobutadiene	88		86		70-130	2		20
Isopropylbenzene	89		86		70-130	3		20
p-Isopropyltoluene	90		87		70-130	3		20
Naphthalene	80		82		70-130	2		20
n-Propylbenzene	92		89		70-130	3		20
1,2,3-Trichlorobenzene	87		86		70-130	1		20
1,2,4-Trichlorobenzene	86		85		70-130	1		20
1,3,5-Trimethylbenzene	89		86		70-130	3		20
1,2,4-Trimethylbenzene	87		84		70-130	4		20
Diethyl ether	91		87		70-130	4		20
Diisopropyl Ether	85		87		70-130	2		20
Ethyl-Tert-Butyl-Ether	86		87		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2242111

Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1672569-3 WG1672569-4								
Tertiary-Amyl Methyl Ether	82		84		70-130	2		20
1,4-Dioxane	73		77		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		103		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	98		99		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01
Client ID: HA22-B6A_35-40
Sample Location: BOSTON, MA

Date Collected: 08/04/22 08:35
Date Received: 08/04/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/13/22 06:51
Analyst: CMM
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 08/06/22 00:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	86	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	86	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	86	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	86	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	86	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	86	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	86	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01 Date Collected: 08/04/22 08:35

Client ID: HA22-B6A_35-40 Date Received: 08/04/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	86	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	86	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	86	--	1
2-Chlorophenol	ND		ug/kg	86	--	1
2,4-Dichlorophenol	ND		ug/kg	86	--	1
2,4-Dimethylphenol	ND		ug/kg	86	--	1
2-Nitrophenol	ND		ug/kg	440	--	1
4-Nitrophenol	ND		ug/kg	290	--	1
2,4-Dinitrophenol	ND		ug/kg	980	--	1
Pentachlorophenol	ND		ug/kg	410	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	220	--	1
Biphenyl	ND		ug/kg	41	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01 Date Collected: 08/04/22 08:35

Client ID: HA22-B6A_35-40 Date Received: 08/04/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	35		30-130
2-Fluorobiphenyl	80		30-130
2,4,6-Tribromophenol	54		30-130
4-Terphenyl-d14	79		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/08/22 09:56
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 08/05/22 10:09

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1671720-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/08/22 09:56
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 08/05/22 10:09

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1671720-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/08/22 09:56
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 08/05/22 10:09

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1671720-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		30-130
Phenol-d6	82		30-130
Nitrobenzene-d5	74		30-130
2-Fluorobiphenyl	79		30-130
2,4,6-Tribromophenol	74		30-130
4-Terphenyl-d14	78		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1671720-2 WG1671720-3								
Acenaphthene	66		62		40-140	6		30
1,2,4-Trichlorobenzene	68		59		40-140	14		30
Hexachlorobenzene	65		60		40-140	8		30
Bis(2-chloroethyl)ether	65		58		40-140	11		30
2-Chloronaphthalene	68		63		40-140	8		30
1,2-Dichlorobenzene	64		58		40-140	10		30
1,3-Dichlorobenzene	64		58		40-140	10		30
1,4-Dichlorobenzene	64		58		40-140	10		30
3,3'-Dichlorobenzidine	57		57		40-140	0		30
2,4-Dinitrotoluene	70		64		40-140	9		30
2,6-Dinitrotoluene	71		65		40-140	9		30
Azobenzene	71		66		40-140	7		30
Fluoranthene	67		62		40-140	8		30
4-Bromophenyl phenyl ether	67		62		40-140	8		30
Bis(2-chloroisopropyl)ether	68		60		40-140	13		30
Bis(2-chloroethoxy)methane	68		62		40-140	9		30
Hexachlorobutadiene	64		59		40-140	8		30
Hexachloroethane	64		57		40-140	12		30
Isophorone	66		60		40-140	10		30
Naphthalene	66		60		40-140	10		30
Nitrobenzene	68		60		40-140	13		30
Bis(2-ethylhexyl)phthalate	78		71		40-140	9		30
Butyl benzyl phthalate	68		62		40-140	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1671720-2 WG1671720-3								
Di-n-butylphthalate	70		63		40-140	11		30
Di-n-octylphthalate	76		69		40-140	10		30
Diethyl phthalate	70		64		40-140	9		30
Dimethyl phthalate	70		64		40-140	9		30
Benzo(a)anthracene	70		64		40-140	9		30
Benzo(a)pyrene	70		63		40-140	11		30
Benzo(b)fluoranthene	68		62		40-140	9		30
Benzo(k)fluoranthene	71		63		40-140	12		30
Chrysene	75		65		40-140	14		30
Acenaphthylene	69		64		40-140	8		30
Anthracene	66		61		40-140	8		30
Benzo(ghi)perylene	63		58		40-140	8		30
Fluorene	69		64		40-140	8		30
Phenanthrene	65		60		40-140	8		30
Dibenzo(a,h)anthracene	63		58		40-140	8		30
Indeno(1,2,3-cd)pyrene	69		63		40-140	9		30
Pyrene	66		61		40-140	8		30
Aniline	55		53		40-140	4		30
4-Chloroaniline	54		59		40-140	9		30
Dibenzofuran	68		63		40-140	8		30
2-Methylnaphthalene	69		63		40-140	9		30
Acetophenone	64		58		40-140	10		30
2,4,6-Trichlorophenol	72		66		30-130	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1671720-2 WG1671720-3								
2-Chlorophenol	69		62		30-130	11		30
2,4-Dichlorophenol	74		68		30-130	8		30
2,4-Dimethylphenol	71		65		30-130	9		30
2-Nitrophenol	68		60		30-130	13		30
4-Nitrophenol	80		71		30-130	12		30
2,4-Dinitrophenol	44		48		30-130	9		30
Pentachlorophenol	51		47		30-130	8		30
Phenol	71		64		30-130	10		30
2-Methylphenol	71		65		30-130	9		30
3-Methylphenol/4-Methylphenol	71		64		30-130	10		30
2,4,5-Trichlorophenol	72		67		30-130	7		30
Pyridine	49		47		30-130	4		30
Biphenyl	66		61		40-140	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	76		68		30-130
Phenol-d6	76		69		30-130
Nitrobenzene-d5	70		61		30-130
2-Fluorobiphenyl	72		66		30-130
2,4,6-Tribromophenol	68		61		30-130
4-Terphenyl-d14	67		61		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01
Client ID: HA22-B6A_35-40
Sample Location: BOSTON, MA

Date Collected: 08/04/22 08:35
Date Received: 08/04/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/05/22 18:49
Analyst: JB
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 06:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	40200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	50		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/05/22 19:24
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 08/05/22 06:14

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1671581-1					
TPH (C10-C36)	ND		ug/kg	31300	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	69		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2242111

Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1671581-2								
TPH (C10-C36)	109		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	76				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01
Client ID: HA22-B6A_35-40
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/08/22 23:35
Analyst: MEO
Percent Solids: 79%

Date Collected: 08/04/22 08:35
Date Received: 08/04/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/05/22 23:23
Cleanup Method: EPA 3665A
Cleanup Date: 08/07/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/07/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.4	--	1	A
Aroclor 1221	ND		ug/kg	40.4	--	1	A
Aroclor 1232	ND		ug/kg	40.4	--	1	A
Aroclor 1242	ND		ug/kg	40.4	--	1	A
Aroclor 1248	ND		ug/kg	40.4	--	1	A
Aroclor 1254	ND		ug/kg	40.4	--	1	A
Aroclor 1260	ND		ug/kg	40.4	--	1	B
Aroclor 1262	ND		ug/kg	40.4	--	1	A
Aroclor 1268	ND		ug/kg	40.4	--	1	A
PCBs, Total	ND		ug/kg	40.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	33		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	33		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/08/22 10:42
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:54
Cleanup Method: EPA 3665A
Cleanup Date: 08/07/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/07/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1671881-1						
Aroclor 1016	ND		ug/kg	32.5	--	A
Aroclor 1221	ND		ug/kg	32.5	--	A
Aroclor 1232	ND		ug/kg	32.5	--	A
Aroclor 1242	ND		ug/kg	32.5	--	A
Aroclor 1248	ND		ug/kg	32.5	--	A
Aroclor 1254	ND		ug/kg	32.5	--	A
Aroclor 1260	ND		ug/kg	32.5	--	A
Aroclor 1262	ND		ug/kg	32.5	--	A
Aroclor 1268	ND		ug/kg	32.5	--	A
PCBs, Total	ND		ug/kg	32.5	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	61		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	53		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2242111

Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1671881-2 WG1671881-3									
Aroclor 1016	71		72		40-140	1		30	A
Aroclor 1260	63		65		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		67		30-150	B
Decachlorobiphenyl	54		55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		67		30-150	A
Decachlorobiphenyl	55		56		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01 Date Collected: 08/04/22 08:35

Client ID: HA22-B6A_35-40 Date Received: 08/04/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.39	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Arsenic, Total	14.7		mg/kg	0.477	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Barium, Total	51.3		mg/kg	0.477	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Beryllium, Total	0.516		mg/kg	0.239	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Cadmium, Total	0.835		mg/kg	0.477	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Chromium, Total	26.5		mg/kg	0.477	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Lead, Total	5.56		mg/kg	2.39	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Mercury, Total	ND		mg/kg	0.081	--	1	08/09/22 12:00	08/09/22 18:41	EPA 7471B	97,7471B	AW
Nickel, Total	17.7		mg/kg	1.19	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Selenium, Total	ND		mg/kg	2.39	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Silver, Total	ND		mg/kg	0.477	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Thallium, Total	ND		mg/kg	2.39	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Vanadium, Total	34.9		mg/kg	0.477	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB
Zinc, Total	41.7		mg/kg	2.39	--	1	08/09/22 07:50	08/10/22 13:18	EPA 3050B	97,6010D	NB

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242111

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1672237-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Arsenic, Total	ND		mg/kg	0.400	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Barium, Total	ND		mg/kg	0.400	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Beryllium, Total	ND		mg/kg	0.200	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Cadmium, Total	ND		mg/kg	0.400	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Chromium, Total	ND		mg/kg	0.400	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Lead, Total	ND		mg/kg	2.00	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Nickel, Total	ND		mg/kg	1.00	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Selenium, Total	ND		mg/kg	2.00	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Silver, Total	ND		mg/kg	0.400	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Thallium, Total	ND		mg/kg	2.00	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Vanadium, Total	ND		mg/kg	0.400	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB
Zinc, Total	ND		mg/kg	2.00	--	1	08/09/22 07:50	08/10/22 12:59	97,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1672238-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/09/22 12:00	08/09/22 18:21	97,7471B	AW

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1672237-2 WG1672237-3 SRM Lot Number: D113-540								
Antimony, Total	135		132		20-250	2		30
Arsenic, Total	84		80		70-130	5		30
Barium, Total	78		80		75-125	3		30
Beryllium, Total	80		88		75-125	10		30
Cadmium, Total	77		78		75-125	1		30
Chromium, Total	79		77		70-130	3		30
Lead, Total	78		73		72-128	7		30
Nickel, Total	77		76		70-130	1		30
Selenium, Total	81		79		66-134	3		30
Silver, Total	80		74		70-131	8		30
Thallium, Total	76		78		70-130	3		30
Vanadium, Total	80		77		74-126	4		30
Zinc, Total	76		73		70-130	4		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1672238-2 WG1672238-3 SRM Lot Number: D113-540								
Mercury, Total	85		94		60-140	10		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

SAMPLE RESULTS

Lab ID:	L2242111-01	Date Collected:	08/04/22 08:35
Client ID:	HA22-B6A_35-40	Date Received:	08/04/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/08/22 08:35	1,1030	PA

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2242111-01
Client ID: HA22-B6A_35-40
Sample Location: BOSTON, MA

Date Collected: 08/04/22 08:35
Date Received: 08/04/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	830		umhos/cm	10	--	1	-	08/09/22 11:35	1,9050A	KS
Solids, Total	79.4		%	0.100	NA	1	-	08/04/22 23:03	121,2540G	MF
pH (H)	8.2		SU	-	NA	1	-	08/09/22 07:46	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/08/22 20:50	08/08/22 23:12	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	250	--	1	08/08/22 20:50	08/08/22 22:09	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2242111
Report Date: 08/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1672633-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/08/22 20:50	08/08/22 22:04	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1672642-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/08/22 20:50	08/08/22 23:06	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2242111

Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1672633-2								
Sulfide, Reactive	115		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1672642-2								
Cyanide, Reactive	91		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1672834-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1672839-1								
Specific Conductance	99		-		99-101	-		

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242111
Report Date: 08/15/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2242111-01A	Vial MeOH preserved	B	NA		3.0	Y	Absent		MCP-8260HLW-21(14)
L2242111-01B	Vial water preserved	B	NA		3.0	Y	Absent	04-AUG-22 22:01	MCP-8260HLW-21(14)
L2242111-01C	Vial water preserved	B	NA		3.0	Y	Absent	04-AUG-22 22:01	MCP-8260HLW-21(14)
L2242111-01D	Vial Large Septa unpreserved (4oz)	B	NA		3.0	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2242111-01E	Plastic 2oz unpreserved for TS	B	NA		3.0	Y	Absent		TS(7)
L2242111-01F	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2242111-01G	Glass 250ml/8oz unpreserved	B	NA		3.0	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2242111-01H	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2242111-01I	Glass 500ml/16oz unpreserved	B	NA		3.0	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242111
Project Number:	134206-007	**Report Date:**	08/15/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 8/4/22

ALPHA Job #: L2242111

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do

Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
42111-01	HA22-B6A-35-40	8/4/22	835	SO/N	AF	35-40	x	x	x	x	x	x	x	x	VOCs @ 35.5	9
Container Type							A	A	A	A	A	A	A	A		
Preservative							F	A	A	A	A	A	A	A		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	8/4/22	Tucker Rowley	8/4/22
Tucker Rowley	8/4/22 4:30	[illegible] HAL	8/4/22 16:32
[illegible] HAL	8/4/22 1830	Lydia Hess	8/4/22 1830

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2242111
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1672569-5	**Lab File ID**	: V27220807A05
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 08/07/22 13:58

Client Sample No.	Lab Sample ID	Analysis Date
WG1672569-3LCS	WG1672569-3	08/07/22 12:58
WG1672569-4LCSD	WG1672569-4	08/07/22 13:18
HA22-B6A_35-40	L2242111-01	08/07/22 18:01

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2242111
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA127	Calibration Date	: 08/07/22 12:38
Lab File ID	: V27220807A01	Init. Calib. Date(s)	: 07/06/22 07/06/22
Sample No	: WG1672569-2	Init. Calib. Times	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	80	0
Dichlorodifluoromethane	0.149	0.192	-	-28.9*	20	99	0
Chloromethane	0.16	0.184	-	-15	20	91	0
Vinyl chloride	0.185	0.203	-	-9.7	20	83	0
Bromomethane	40	46.151	-	-15.4	20	89	0
Chloroethane	0.122	0.13	-	-6.6	20	85	0
Trichlorofluoromethane	0.316	0.322	-	-1.9	20	75	0
Ethyl ether	0.116	0.11	-	5.2	20	80	0
1,1-Dichloroethene	0.198	0.199	-	-0.5	20	75	0
Carbon disulfide	0.553	0.562	-	-1.6	20	80	0
Freon-113	0.209	0.204	-	2.4	20	74	0
Acrolein	0.023	0.024	-	-4.3	20	82	0
Methylene chloride	40	39.062	-	2.3	20	78	0
Acetone	40	56.583	-	-41.5*	20	104	0
trans-1,2-Dichloroethene	0.249	0.232	-	6.8	20	75	0
Methyl acetate	0.117	0.111	-	5.1	20	77	0
Methyl tert-butyl ether	0.608	0.568	-	6.6	20	74	0
tert-Butyl alcohol	0.031	0.023	-	25.8*	20	66	0
Diisopropyl ether	0.613	0.563	-	8.2	20	73	0
1,1-Dichloroethane	0.378	0.362	-	4.2	20	76	-.01
Halothane	0.198	0.175	-	11.6	20	71	-.01
Acrylonitrile	40	38.068	-	4.8	20	74	0
Ethyl tert-butyl ether	0.67	0.623	-	7	20	72	-.01
Vinyl acetate	0.465	0.41	-	11.8	20	69	-.01
cis-1,2-Dichloroethene	0.289	0.253	-	12.5	20	72	-.01
2,2-Dichloropropane	0.369	0.352	-	4.6	20	74	-.01
Bromochloromethane	0.143	0.129	-	9.8	20	70	-.01
Cyclohexane	0.325	0.317	-	2.5	20	75	-.01
Chloroform	0.454	0.417	-	8.1	20	74	0
Ethyl acetate	0.183	0.167	-	8.7	20	72	0
Carbon tetrachloride	0.337	0.303	-	10.1	20	70	-.01
Tetrahydrofuran	40	35.362	-	11.6	20	69	0
Dibromofluoromethane	0.253	0.25	-	1.2	20	79	0
1,1,1-Trichloroethane	0.362	0.339	-	6.4	20	71	0
2-Butanone	0.084	0.088	-	-4.8	20	85	-.01
1,1-Dichloropropene	0.293	0.29	-	1	20	73	0
Benzene	0.968	0.911	-	5.9	20	75	-.01
tert-Amyl methyl ether	0.7	0.612	-	12.6	20	69	0
1,2-Dichloroethane-d4	0.246	0.252	-	-2.4	20	82	-.01
1,2-Dichloroethane	0.299	0.283	-	5.4	20	74	0
Methyl cyclohexane	0.415	0.4	-	3.6	20	72	0
Trichloroethene	0.273	0.251	-	8.1	20	72	0
Dibromomethane	0.157	0.143	-	8.9	20	72	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2242111
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA127	Calibration Date	: 08/07/22 12:38
Lab File ID	: V27220807A01	Init. Calib. Date(s)	: 07/06/22 07/06/22
Sample No	: WG1672569-2	Init. Calib. Times	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.232	0.221	-	4.7	20	74	-.01
2-Chloroethyl vinyl ether	0.149	0.125	-	16.1	20	66	0
Bromodichloromethane	0.361	0.315	-	12.7	20	71	0
1,4-Dioxane	0.00271	0.00204*	-	24.7*	20	58	0
cis-1,3-Dichloropropene	0.405	0.383	-	5.4	20	73	0
Chlorobenzene-d5	1	1	-	0	20	79	0
Toluene-d8	1.259	1.251	-	0.6	20	79	0
Toluene	0.871	0.754	-	13.4	20	73	0
4-Methyl-2-pentanone	0.106	0.09	-	15.1	20	67	0
Tetrachloroethene	0.405	0.387	-	4.4	20	70	0
trans-1,3-Dichloropropene	0.468	0.439	-	6.2	20	73	0
Ethyl methacrylate	0.393	0.347	-	11.7	20	69	0
1,1,2-Trichloroethane	0.23	0.216	-	6.1	20	75	0
Chlorodibromomethane	0.359	0.322	-	10.3	20	70	0
1,3-Dichloropropane	0.456	0.438	-	3.9	20	74	0
1,2-Dibromoethane	0.293	0.269	-	8.2	20	72	0
2-Hexanone	0.181	0.158	-	12.7	20	72	0
Chlorobenzene	0.929	0.885	-	4.7	20	73	0
Ethylbenzene	1.506	1.385	-	8	20	72	0
1,1,1,2-Tetrachloroethane	0.359	0.331	-	7.8	20	71	0
p/m Xylene	0.604	0.558	-	7.6	20	72	0
o Xylene	0.579	0.542	-	6.4	20	72	0
Styrene	0.956	0.895	-	6.4	20	72	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	80	0
Bromoform	0.483	0.414	-	14.3	20	66	0
Isopropylbenzene	2.743	2.548	-	7.1	20	71	0
4-Bromofluorobenzene	0.828	0.793	-	4.2	20	77	0
Bromobenzene	0.809	0.73	-	9.8	20	70	0
n-Propylbenzene	3.053	2.962	-	3	20	74	0
1,4-Dichlorobutane	0.712	0.717	-	-0.7	20	80	0
1,1,2,2-Tetrachloroethane	0.632	0.588	-	7	20	75	0
4-Ethyltoluene	2.66	2.535	-	4.7	20	74	0
2-Chlorotoluene	1.914	2.051	-	-7.2	20	85	0
1,3,5-Trimethylbenzene	2.301	2.164	-	6	20	72	0
1,2,3-Trichloropropane	0.519	0.475	-	8.5	20	72	0
trans-1,4-Dichloro-2-buten	0.178	0.16	-	10.1	20	76	0
4-Chlorotoluene	1.947	1.841	-	5.4	20	74	0
tert-Butylbenzene	2.057	1.894	-	7.9	20	70	0
1,2,4-Trimethylbenzene	2.305	2.144	-	7	20	72	0
sec-Butylbenzene	2.908	2.84	-	2.3	20	73	0
p-Isopropyltoluene	2.585	2.47	-	4.4	20	72	0
1,3-Dichlorobenzene	1.487	1.396	-	6.1	20	74	0
1,4-Dichlorobenzene	1.609	1.397	-	13.2	20	73	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2242111
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Instrument ID	: VOA127	**Calibration Date**	: 08/07/22 12:38
Lab File ID	: V27220807A01	**Init. Calib. Date(s)**	: 07/06/22 07/06/22
Sample No	: WG1672569-2	**Init. Calib. Times**	: 14:11 16:50
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.572	1.453	-	7.6	20	71	0
n-Butylbenzene	2.13	2.159	-	-1.4	20	76	0
1,2-Dichlorobenzene	1.406	1.305	-	7.2	20	73	0
1,2,4,5-Tetramethylbenzene	2.498	2.224	-	11	20	69	0
1,2-Dibromo-3-chloropropan	0.135	0.111	-	17.8	20	64	0
1,3,5-Trichlorobenzene	1.218	1.164	-	4.4	20	75	0
Hexachlorobutadiene	0.675	0.639	-	5.3	20	72	0
1,2,4-Trichlorobenzene	1.111	1.03	-	7.3	20	73	0
Naphthalene	2.306	1.953	-	15.3	20	68	0
1,2,3-Trichlorobenzene	1.033	0.963	-	6.8	20	74	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2242131
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-006
Report Date:	08/10/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2242131
Report Date: 08/10/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2242131-01	HA22-B6_1.0-6.0	SOIL	BOSTON, MA	07/05/22 10:00	07/05/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2242131
Project Number:	134206-006	**Report Date:**	08/10/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 08/10/22

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2242131
Project Number: 134206-006
Report Date: 08/10/22

SAMPLE RESULTS

Lab ID: L2242131-01
Client ID: HA22-B6_1.0-6.0
Sample Location: BOSTON, MA

Date Collected: 07/05/22 10:00
Date Received: 07/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/06/22 09:19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	08/08/22 17:33	08/10/22 00:54	EPA 3015	1,6010D	DL

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2242131

Project Number: 134206-006 **Report Date:** 08/10/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1672476-1										
Lead, TCLP	ND		mg/l	0.500	--	1	08/08/22 17:33	08/09/22 22:41	1,6010D	DL

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 08/06/22 09:19

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2242131

Report Date: 08/10/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1672476-2								
Lead, TCLP	90		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2242131
Report Date: 08/10/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1672476-3 QC Sample: L2241431-01 Client ID: MS Sample												
Lead, TCLP	ND	5.3	4.88	92		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2242131

Report Date: 08/10/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1672476-4 QC Sample: L2241431-01 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2242131
Report Date: 08/10/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2242131-01E	Glass 500ml/16oz unpreserved	A	NA		3.5	Y	Absent		-
L2242131-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.5	Y	Absent		PB-Cl(180)
L2242131-01X9	Tumble Vessel	A	NA		3.5	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2242131
Project Number:	134206-006	**Report Date:**	08/10/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2242131
Project Number:	134206-006	**Report Date:**	08/10/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2242131
Project Number:	134206-006	**Report Date:**	08/10/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2242131
Project Number:	134206-006	**Report Date:**	08/10/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2242131

8/1/22 ~~L2240932~~ 66 8/5/22

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers: Brewer, ME 04412 — Portsmouth, NH 03801 Mahwah, NJ 07430 — Albany, NY 12205 — Tonawanda, NY 14150 — Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/5/22

ALPHA Job #: ~~L2235654~~

Project Information

Project Name: Matthews Arena - Northeastern University

Project Location: Boston, MA

Project #: 134206-006

(Use Project name as Project #) ☐

Project Manager: Kaitlyn Tripp

ALPHAQuote #:

Turn-Around Time

☑ Standard — Due Date:

Rush (only if pre approved) ☐ — # of Days:

Deliverables

☑ Email ☐ Fax

☐ EQuIS (1 File) ☑ EQuIS (4 File)

☐ Other:

Billing Information

☐ Same as Client Info

PO #

H&A Information

H&A Client: NEU

H&A Address: 465 Medford St, Suite 2200

Boston, MA 02129

H&A Phone: 617.866.7358

H&A Fax:

H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration

☐ Done

☐ Lab to do

Preservation

☐ Lab to do

(Please Specify below)

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	~~1. VOCs~~	~~2. SVOCs~~	~~3. MCP14 Metals~~	~~4. TPH~~	~~5. PCBs~~	~~6. Waste Char.~~	~~7. Conductivity~~	~~8. see note~~ TCLP PR	Sample Specific Comments	Total Bottles
2131-01 ~~35634-01~~	HA22-B6_1.0-6.0	7/5/2022	1000	SO/F	MJD	1-6'	x	x	x	x	x	x	x	x		8
~~01097-02~~	HA22-B5_0.5-2.6	"	1345	SO/F	MJD	0.5-2.6	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~		8
															LCTOTAC	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935

Mansfield: Certification No: MA015

Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/5/2022 1455	[signature] Mon AAL	7/5/22 1455
[signature]	7/5/22 1616	[signature]	7/5/22 1616

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

ANALYTICAL REPORT

Lab Number:	L2242699
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/15/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242699
Report Date: 08/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2242699-01	HA22-B6A_5-10	SOIL	BOSTON, MA	08/03/22 13:40	08/03/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242699
Project Number:	134206-007	**Report Date:**	08/15/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 08/15/22

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2242699
Project Number: 134206-007
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2242699-01
Client ID: HA22-B6A_5-10
Sample Location: BOSTON, MA

Date Collected: 08/03/22 13:40
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/11/22 05:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.601		mg/l	0.500	--	1	08/12/22 23:25	08/13/22 11:45	EPA 3015	1,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2242699

Project Number: 134206-007 **Report Date:** 08/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1674613-1										
Lead, TCLP	ND		mg/l	0.500	--	1	08/12/22 23:25	08/13/22 11:35	1,6010D	MC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 08/10/22 13:16

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2242699

Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1674613-2								
Lead, TCLP	107		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242699
Report Date: 08/15/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1674613-3 QC Sample: L2243138-03 Client ID: MS Sample												
Lead, TCLP	ND	5.3	5.65	107		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2242699

Report Date: 08/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1674613-4 QC Sample: L2243138-03 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2242699
Report Date: 08/15/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2242699-01I	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		-
L2242699-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.7	Y	Absent		PB-CI(180)
L2242699-01X9	Tumble Vessel	A	NA		2.7	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242699
Project Number:	134206-007	**Report Date:**	08/15/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242699
Project Number:	134206-007	**Report Date:**	08/15/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242699
Project Number:	134206-007	**Report Date:**	08/15/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2242699
Project Number:	134206-007	**Report Date:**	08/15/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2242699 KL 8/10/22

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page | of |

Date Rec'd in Lab 8/3/22

ALPHA Job # L0241779

Project Information
Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project # 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time
☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables
☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information
☐ Same as Client Info
PO #

H&A Information
H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)
MA RCS-1
Note: Select State from menu & identify criteria.

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐
Other project specific requirements/comments:
Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS
Sample Filtration: ☐ Done ☐ Lab to do
Preservation: ☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	Separate TCLP Pb	Sample Specific Comments	Total # Bottles
41779-01	HA22-B6A-5-10	8/3/22	1340	SO/F	AF	5-10	x	x	x	x	x	x	x	x	VOCs@6.5	9
42699 ~~02~~	HA22-B6A-10-15	8/3/22	1420	SO/F	AF	10-15	X	X	X	X	X	X	X	X	VOCs@12.5	9

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	8/3/22	[illegible]	8/3
[illegible]	8/3 1630	[illegible]	8/3/22 1630
[illegible]	8/3/22 1824	[illegible]	8/3/22 1824

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

8/17/2022

Accreditation# 98218

Alpha Analytical

MicroVision Labs Coal Ash Report, Job # 15501
Alpha Analytical Project#: L2242722

Scope of Work:

This report covers the methods and findings of the Coal/Coal Ash analysis that MicroVision Laboratories, Inc. conducted on two (2) soil samples submitted for testing from the L2242722 project. The purpose of this analysis was to detect and document any coal, coal ash, wood ash or asphalt that may be present in the submitted soil samples by use of a combination of microscopy techniques including SEM/EDS, PLM, and macroscopic inspection. The results presented in this report relate only to the samples examined and as received.

Methods:

MicroVision Labs is accredited to the ISO/IEC 17025:2017 standard. This analysis follows our in house SOP #MVL05 (Microscopic Analysis for Coal, Coal Ash and Wood Ash). This method is listed on our certificate of accreditation and has been validated.

Findings:

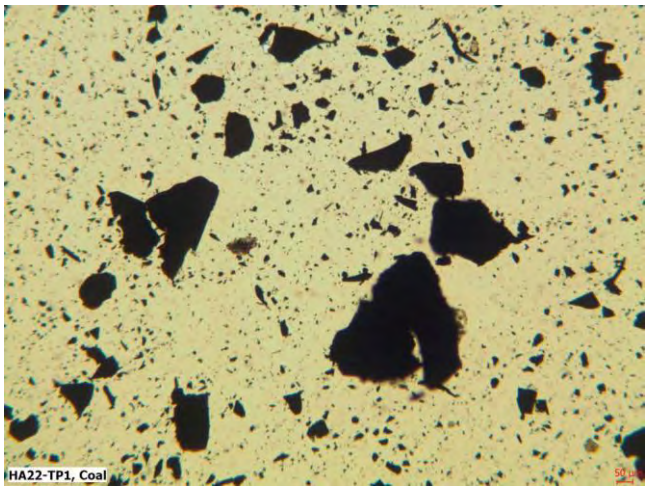
The following pages display the data for each particle type detected in the samples for this project. Each page contains a PLM image, SEM image, and EDS spectrum for the particle types detected for these samples as well as particle type descriptions and observations.

MicroVision Laboratories, Inc. 187 Billerica Road, Chelmsford, MA 01824
Phone: (978) 250-9909 Fax: (978) 250-9901 Email: Sales@MicroVisionLabs.com
www.MicroVisionLabs.com

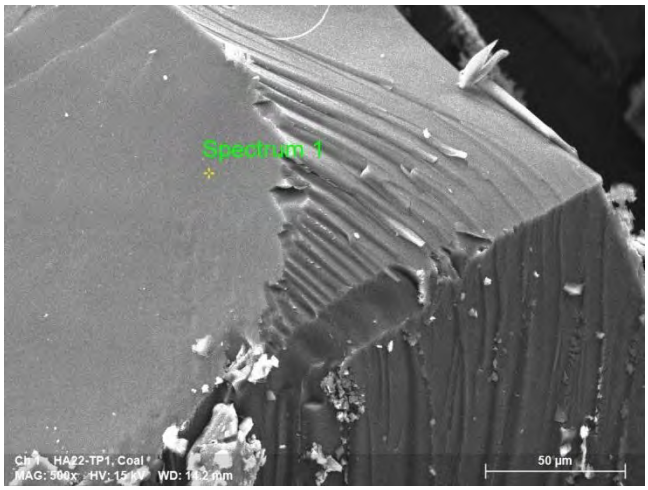
Sample: HA22-TP1_0.6-4.0

Number of Suspect Particle Types: Three (3)

Coal: This particle type consisted of sixteen (16) shiny, black grains approximately 1-4mm in diameter. The PLM examination indicated this particle type to be consistent with coal. The PLM and SEM images of this particle type show the angular edges and typical conchoidal fractures found in coal.

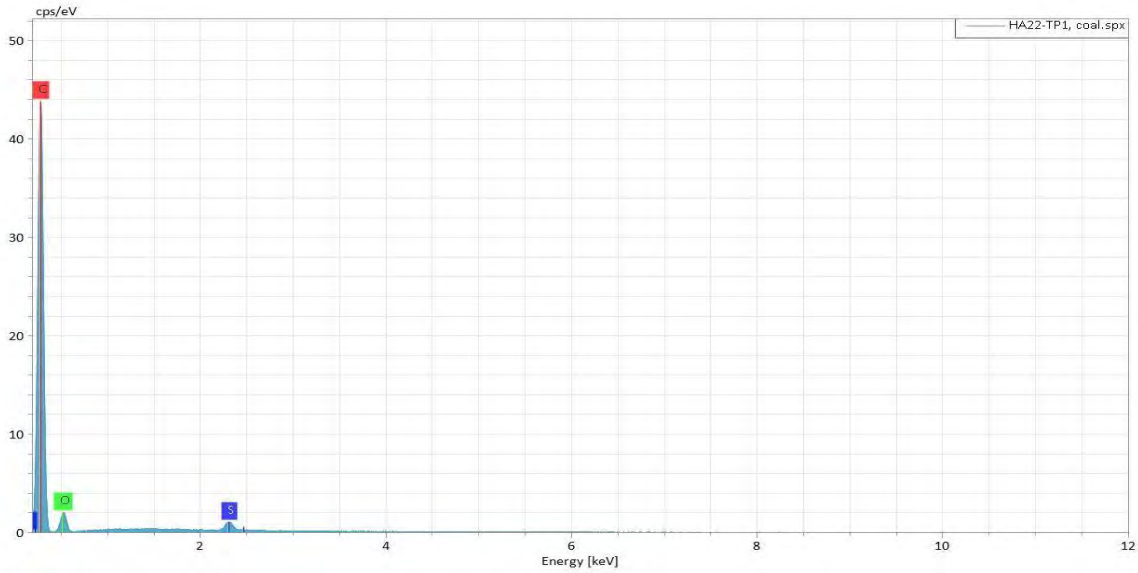


PLM Image

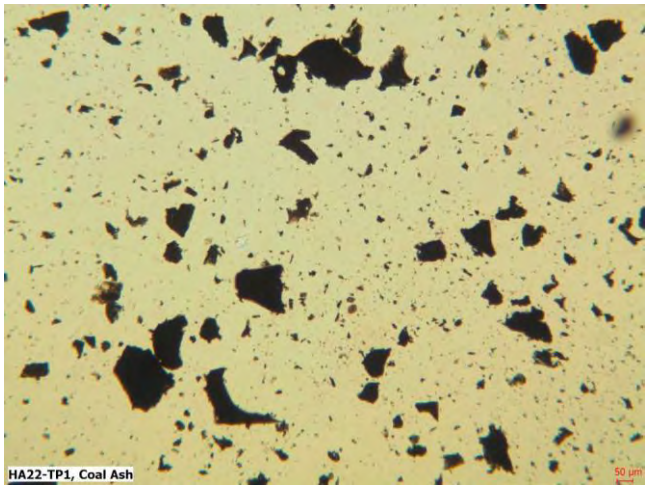


SEM Image

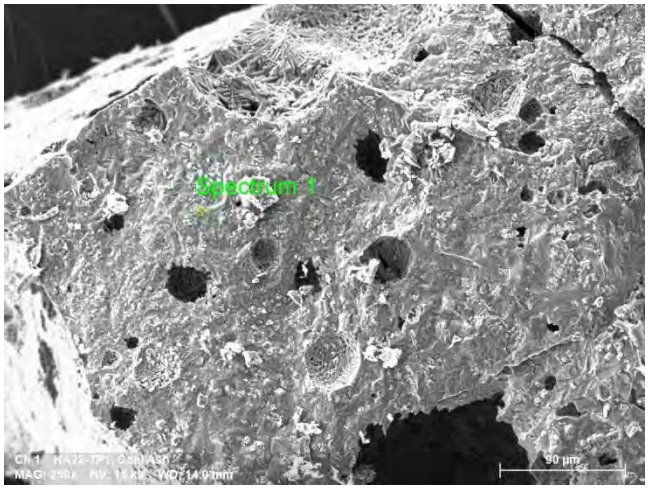
The EDS spectrum, shown below, confirms that this particle type is coal. The analysis for this particle shows concentrations of carbon, oxygen, and sulfur.



Coal Ash: This particle type consisted of eight (8) dark, porous grains approximately 2-4mm in diameter. The PLM examination indicated this particle type to be consistent with coal ash. The PLM and SEM images show the spherical gas voids that formed during combustion.

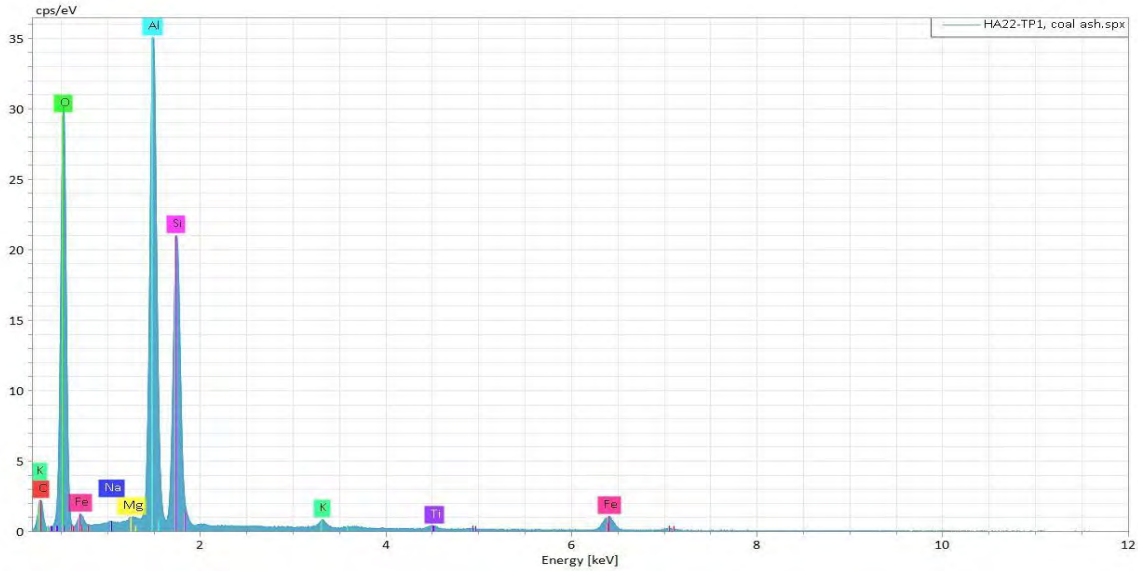


PLM Image

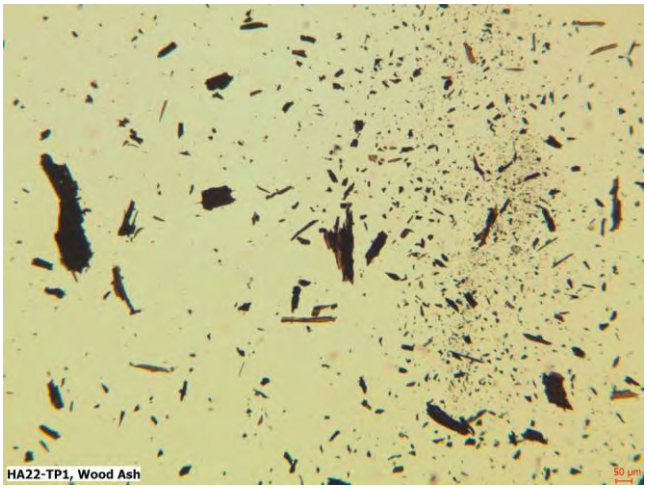


SEM Image

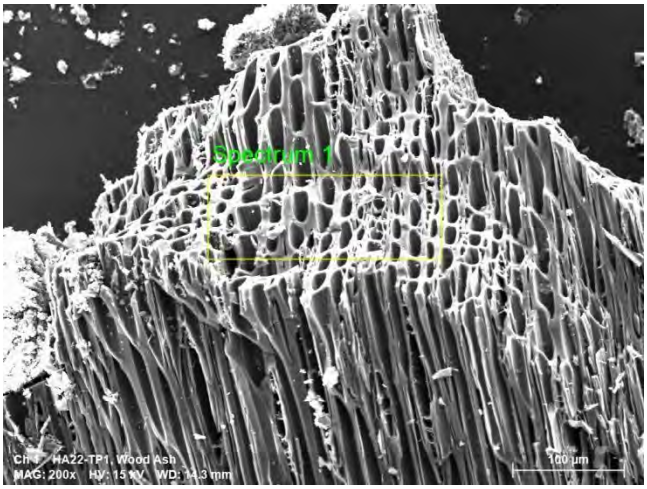
The EDS spectrum, shown below, indicates this particle type is coal ash. The analysis for this particle shows concentrations of carbon, oxygen, sodium, magnesium, aluminum, silicon, potassium, titanium and iron.



Wood Ash: This particle type consisted of five (5) friable, black grains approximately 2-7mm in length. The PLM examination indicated this particle type to be consistent with wood ash. The PLM and SEM photos show the cellular structure typical of wood still present in these grains.

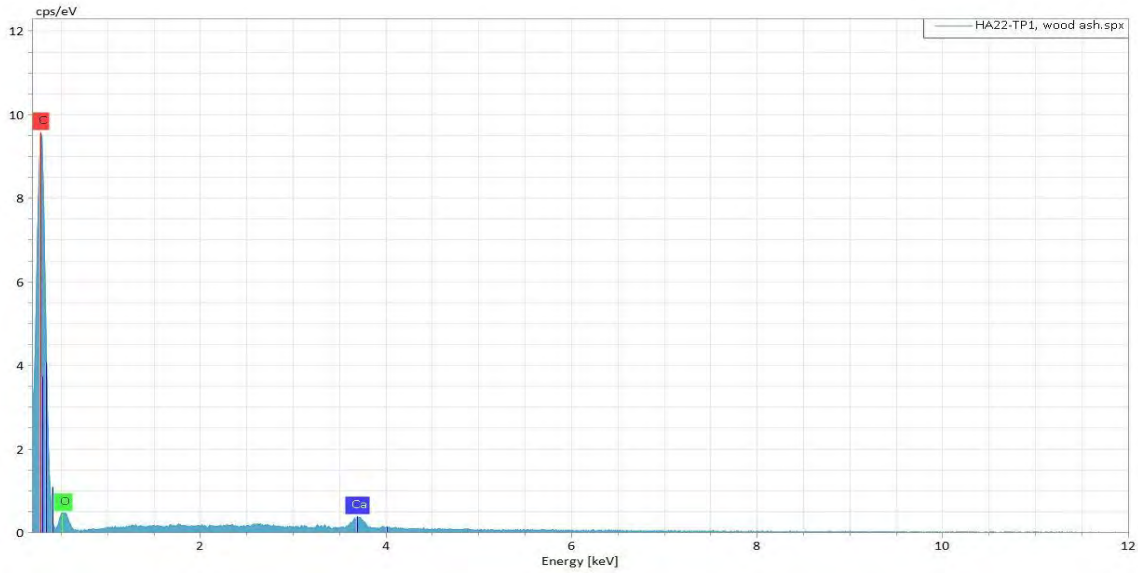


PLM Image



SEM Image

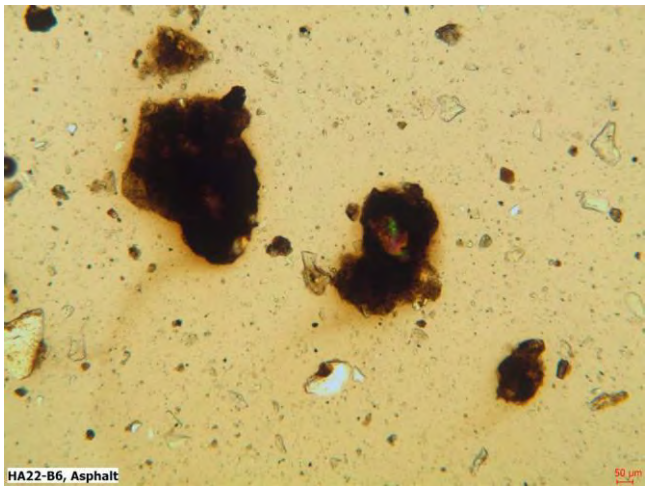
The EDS spectrum, shown below, indicates this particle type is wood ash. The analysis for this particle shows concentrations of carbon, oxygen, and calcium.



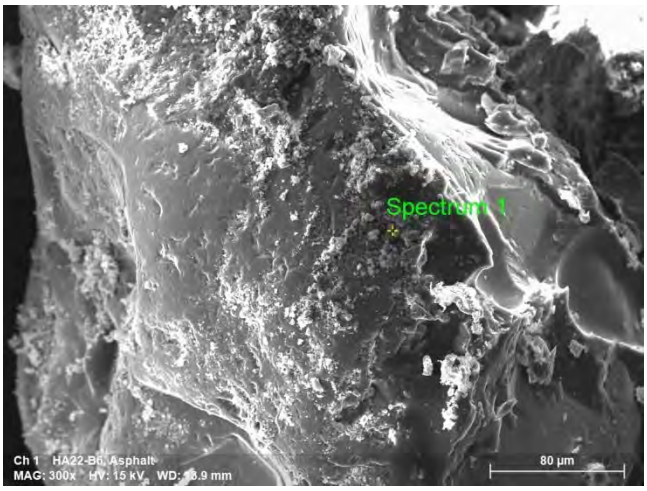
Sample: HA22-B6_1.0-6.0

Number of Suspect Particle Types: Two (2)

Asphalt: This particle type consisted of eleven (11) ductile, black grains approximately 2-7mm in diameter. These grains had mineral matter embedded in and stuck to them. During the PLM examination, these particles slowly dissolved in the mounting oil which is a typical characteristic of asphalt. The PLM image shows the dissolving asphalt particles, and the SEM image illustrates the morphology of asphalt with the embedded mineral grains.

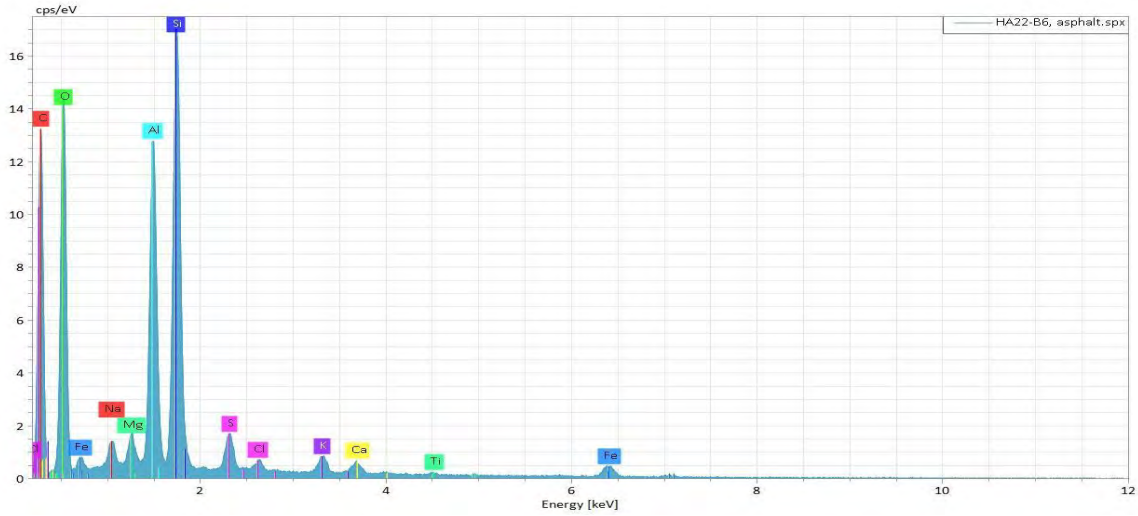


PLM Image

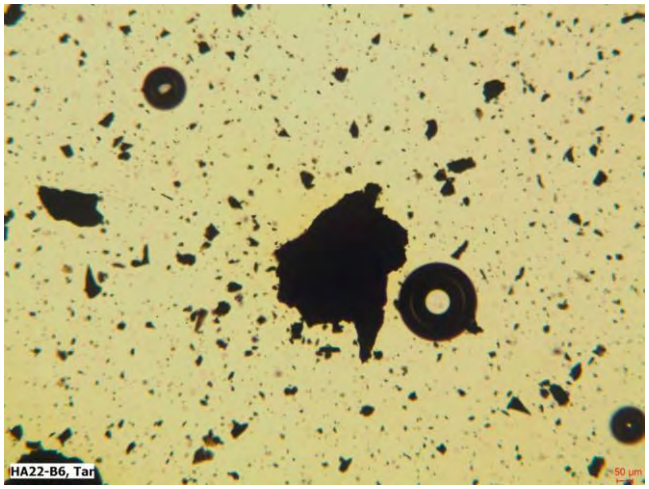


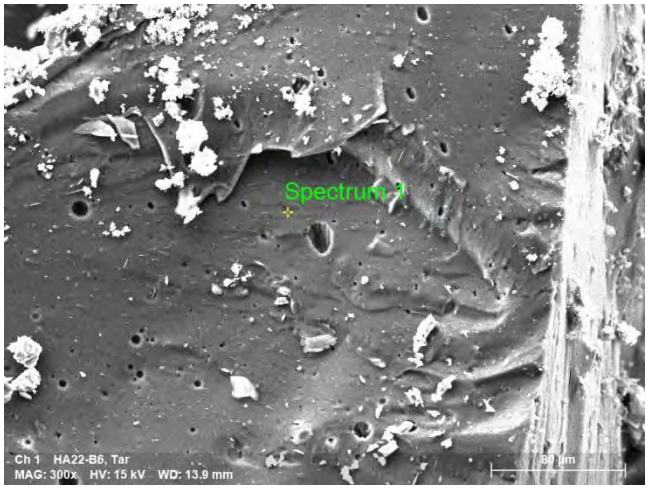
SEM Image

The EDS spectrum, shown below, indicates this particle type is asphalt. The analysis for this particle shows concentrations of carbon, oxygen, sodium, magnesium, aluminum, silicon, sulfur, chlorine, potassium, calcium, titanium and iron.



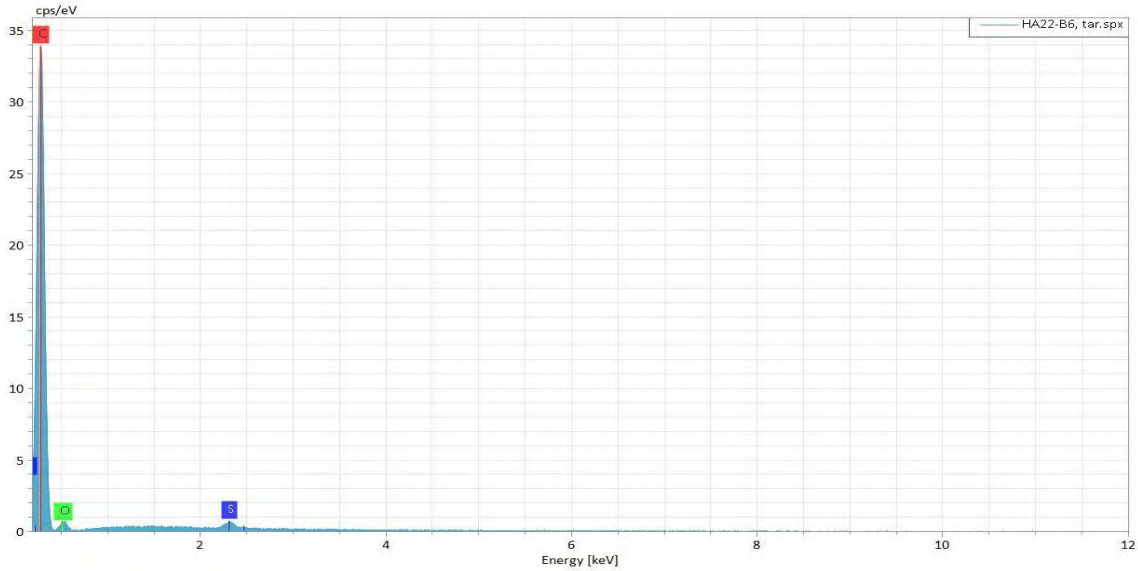
Tar: This particle type consisted of five (5) dark, ductile grains approximately 1-4mm in diameter. During the PLM examination these particles slowly dissolved in the mounting oil which is a typical characteristic of tar. The PLM image shows the tar particles, and the SEM image illustrates the morphology of tar.





PLM Image **SEM Image**

The EDS spectrum, shown below, indicates this particle type is tar. The analysis for this particle shows concentrations of carbon, oxygen, and sulfur.



Results Summary Table:

Sample Name	Material Detected
HA22-TP1_0.6-4.0	**Coal (light), Coal Ash (light), Wood Ash (trace)**
HA22-B6_1.0-6.0	**Asphalt (light), Tar (trace)**

The concentrations of the particle types detected in these samples are listed in parenthesis in the table above and are based on the number of particles found and the relative difficulty in finding them. The concentration information is listed for informational purposes only and has no bearing on exemption status.

Please let us know if you have any questions about this analysis or if there is anything else we can do for you.

Sincerely,

Denise Weidler
Analytical Microscopist

Reviewed by: jas

MicroVision Laboratories, Inc. 187 Billerica Road, Chelmsford, MA 01824
Phone: (978) 250-9909 Fax: (978) 250-9901 Email: Sales@MicroVisionLabs.com
www.MicroVisionLabs.com

15501

ALPHA ANALYTICAL World Class Chemistry

Subcontract Chain of Custody

Microvision
187 Billerica Road
Chelmsford, MA 01824

Alpha Job Number
L2242722

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 603.319.5010 Email: mgulli@alphalab.com	Project Location: MA Project Manager: Melissa Gulli **Turnaround & Deliverables Information** Due Date: 08/18/22 Deliverables:	State/Federal Program: Regulatory Criteria: RCS-1-19

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2242722 | Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	HA22-TP1_0.6-4.0	07-19-22 09:15	SOIL	Coal Ash Determination	
	HA22-B6_1.0-6.0	07-05-22 10:00	SOIL	Coal Ash Determination	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	DAVIS AAC	8/10/22 8-10-22 1436	DAVISAAC	8-10-22 10:25 8/10/22 2:30 pm

Form No: AL_subcoc

ISO/IEC 17025:2017 Accredited
MicroVision Laboratories, Inc. 187 Billerica Road, Chelmsford, MA 01824
Phone: (978) 250-9909 Fax: (978) 250-9901 Email: Sales@MicroVisionLabs.com
www.MicroVisionLabs.com

L 2242722

ED 8/9/22

CHAIN OF CUSTODY

ALPHA

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 7/19/22

ALPHA Job # ~~L2238398~~

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project # 134206-006
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	~~1. VOCs~~	~~2. SVOCs~~ SUB-COAL ASH	~~3. MCP 14 Metals~~	~~4. TPH~~	~~5. PCBs~~	~~6. Waste Char~~	~~7. Conductivity~~	8. see note	Sample Specific Comments	Total Bottles
~~38398~~-01 42722	HA22-TP1_06-4.0	7/19/2022	0915	SO/F	MJD	06-4.0	x	x	x	x	x	x	x	x		8
															8 TOTAL	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/19/2022	[signature] AAL	7/19/22 15:19
[signature] AAL	7/19/22 12:14	[signature]	7/19/22 16:19

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

8/1/22 ~~L2240932~~ 66 L2242722

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581, 8 Walkup Dr., TEL: 508-898-9220, FAX: 508-898-9193

Mansfield, MA 02048, 320 Forbes Blvd, TEL: 508-822-9300, FAX: 508-822-3288

Service Centers: Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 7/5/22

ALPHA Job # ~~L2235654~~ EO 8/9/22

Project Information

Project Name: Matthews Arena - Northeastern University

Project Location: Boston, MA

Project # 134206-006

(Use Project name as Project #) ☐

Project Manager: Kaitlyn Tripp

ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:

Rush (only if pre approved) ☐ # of Days:

Deliverables

☑ Email ☐ Fax

☐ EQuIS (1 File) ☑ EQuIS (4 File)

☐ Other:

Billing Information

☐ Same as Client Info

PO #

H&A Information

H&A Client: NEU

H&A Address: 465 Medford St, Suite 2200

Boston, MA 02129

H&A Phone: 617.886.7358

H&A Fax:

H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration

☐ Done

☐ Lab to do

Preservation

☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	~~1. VOCs~~	~~2. SVOCs~~ SUB-COALASH	~~3. MCP11 Metals~~	~~4. TPH~~	~~5. PCBs~~	~~6. Waste Char~~	~~7. Conductivity~~	8. see note	Sample Specific Comments	Total Bottles
~~35654~~ -01	HA22-B6_1.0-6.0	7/5/2022	1000	SO/F	MJD	1-6'	x	x	x	x	x	x	x	x		8
~~01095L~~ -02	HA22-B5_0.5-2.6	"	1345	SO/F	MJD	0.5-2.6	X	X	X	X	X	X	X	X		8
															LCTOTAC	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935

Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP11 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	8. see note
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/5/2022 1455	[signature] Thu AAL	7/5/22 1455
[signature]	7/5/22 1616	[signature]	7/5/22 1616

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

ANALYTICAL REPORT

Lab Number:	L2243151
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN UN
Project Number:	134206-006
Report Date:	08/26/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2243151-01	HA22-B1_5.0-9.0	SOIL	BOSTON, MA	08/10/22 10:20	08/10/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L2243151-01: The collection date and time on the chain of custody was 10-AUG-22 10:20; however, the collection date/time on the container label was 10-AUG-22 10:25. At the client's request, the collection date/time is reported as 10-AUG-22 10:20.

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2243151-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromochloromethane (0.0998), bromodichloromethane (0.2690), 1,4-dioxane (0.0013), 1,1,2-trichloroethane (0.1901)

Average Response Factor: 1,4-dioxane

L2243151-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

In reference to question H:

L2243151-01: The surrogate recoveries were outside the acceptance criteria for 2-fluorophenol (23%) and 2,4,6-tribromophenol (16%); however, re-extraction outside of holding time achieved similar results: 2-fluorophenol (29%) and 2,4,6-tribromophenol (24%). The results of both extractions are reported; however, all associated compounds are considered to have a potential bias.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 08/26/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1677393-3	Vinyl chloride	LCS	68	70-130	01	potential low bias
8260D	Batch QC	WG1677393-3	Dichlorodifluoromethane	LCS	48	70-130	01	potential low bias
8260D	Batch QC	WG1677393-4	Vinyl chloride	LCSD	67	70-130	01	potential low bias
8260D	Batch QC	WG1677393-4	Dichlorodifluoromethane	LCSD	48	70-130	01	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270E	HA22-B1_5.0-9.0	L2243151-01	2-Fluorophenol	Surrogate	23	30-130	-	potential low bias
8270E	HA22-B1_5.0-9.0	L2243151-01	2,4,6-Tribromophenol	Surrogate	16	30-130	-	potential low bias
8270E	HA22-B1_5.0-9.0	L2243151-01 RE	2-Fluorophenol	Surrogate	29	30-130	-	potential low bias
8270E	HA22-B1_5.0-9.0	L2243151-01 RE	2,4,6-Tribromophenol	Surrogate	24	30-130	-	potential low bias
8270E	Batch QC	WG1679302-2	4-Chloroaniline	LCS	37	40-140	01	potential low bias
8270E	Batch QC	WG1679302-3	4-Chloroaniline	LCSD	35	40-140	01	potential low bias
8270E	Batch QC	WG1679302-3	2,4-Dinitrophenol	LCSD	24	30-130	01	potential low bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01
Client ID: HA22-B1_5.0-9.0
Sample Location: BOSTON, MA

Date Collected: 08/10/22 10:20
Date Received: 08/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/18/22 17:33
Analyst: MKS
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.6	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.7	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	ND		ug/kg	0.56	--	1
Chlorobenzene	ND		ug/kg	0.56	--	1
Trichlorofluoromethane	ND		ug/kg	4.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.56	--	1
Bromodichloromethane	ND		ug/kg	0.56	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.56	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.56	--	1
1,1-Dichloropropene	ND		ug/kg	0.56	--	1
Bromoform	ND		ug/kg	4.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Benzene	31		ug/kg	0.56	--	1
Toluene	32		ug/kg	1.1	--	1
Ethylbenzene	4.2		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.4	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01 Date Collected: 08/10/22 10:20

Client ID: HA22-B1_5.0-9.0 Date Received: 08/10/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.56	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	8.5		ug/kg	2.2	--	1
o-Xylene	4.9		ug/kg	1.1	--	1
Xylenes, Total	13		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	8.7		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	ND		ug/kg	28	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.4	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	--	1
Hexachlorobutadiene	ND		ug/kg	4.4	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	26		ug/kg	1.1	--	1
Naphthalene	17		ug/kg	4.4	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01 Date Collected: 08/10/22 10:20

Client ID: HA22-B1_5.0-9.0 Date Received: 08/10/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	89	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	82		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/18/22 09:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1677393-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/18/22 09:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1677393-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/18/22 09:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1677393-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1677393-3 WG1677393-4								
Methylene chloride	90		91		70-130	1		20
1,1-Dichloroethane	97		97		70-130	0		20
Chloroform	94		95		70-130	1		20
Carbon tetrachloride	96		97		70-130	1		20
1,2-Dichloropropane	99		99		70-130	0		20
Dibromochloromethane	94		94		70-130	0		20
1,1,2-Trichloroethane	91		91		70-130	0		20
Tetrachloroethene	97		98		70-130	1		20
Chlorobenzene	91		92		70-130	1		20
Trichlorofluoromethane	89		90		70-130	1		20
1,2-Dichloroethane	92		91		70-130	1		20
1,1,1-Trichloroethane	95		95		70-130	0		20
Bromodichloromethane	98		97		70-130	1		20
trans-1,3-Dichloropropene	93		93		70-130	0		20
cis-1,3-Dichloropropene	99		98		70-130	1		20
1,1-Dichloropropene	97		98		70-130	1		20
Bromoform	78		79		70-130	1		20
1,1,2,2-Tetrachloroethane	86		84		70-130	2		20
Benzene	95		95		70-130	0		20
Toluene	92		93		70-130	1		20
Ethylbenzene	94		94		70-130	0		20
Chloromethane	74		74		70-130	0		20
Bromomethane	80		82		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1677393-3 WG1677393-4								
Vinyl chloride	**68**	Q	**67**	Q	70-130	1		20
Chloroethane	92		92		70-130	0		20
1,1-Dichloroethene	94		95		70-130	1		20
trans-1,2-Dichloroethene	94		94		70-130	0		20
Trichloroethene	102		101		70-130	1		20
1,2-Dichlorobenzene	90		91		70-130	1		20
1,3-Dichlorobenzene	92		92		70-130	0		20
1,4-Dichlorobenzene	92		92		70-130	0		20
Methyl tert butyl ether	91		89		70-130	2		20
p/m-Xylene	92		93		70-130	1		20
o-Xylene	91		92		70-130	1		20
cis-1,2-Dichloroethene	94		94		70-130	0		20
Dibromomethane	90		89		70-130	1		20
1,2,3-Trichloropropane	89		87		70-130	2		20
Styrene	82		82		70-130	0		20
Dichlorodifluoromethane	**48**	Q	**48**	Q	70-130	0		20
Acetone	100		93		70-130	7		20
Carbon disulfide	85		84		70-130	1		20
Methyl ethyl ketone	93		87		70-130	7		20
Methyl isobutyl ketone	94		93		70-130	1		20
2-Hexanone	95		90		70-130	5		20
Bromochloromethane	95		95		70-130	0		20
Tetrahydrofuran	92		89		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1677393-3 WG1677393-4								
2,2-Dichloropropane	99		99		70-130	0		20
1,2-Dibromoethane	91		91		70-130	0		20
1,3-Dichloropropane	91		91		70-130	0		20
1,1,1,2-Tetrachloroethane	93		94		70-130	1		20
Bromobenzene	91		92		70-130	1		20
n-Butylbenzene	90		91		70-130	1		20
sec-Butylbenzene	94		95		70-130	1		20
tert-Butylbenzene	92		94		70-130	2		20
o-Chlorotoluene	89		91		70-130	2		20
p-Chlorotoluene	93		94		70-130	1		20
1,2-Dibromo-3-chloropropane	89		86		70-130	3		20
Hexachlorobutadiene	106		108		70-130	2		20
Isopropylbenzene	92		94		70-130	2		20
p-Isopropyltoluene	92		94		70-130	2		20
Naphthalene	96		94		70-130	2		20
n-Propylbenzene	93		95		70-130	2		20
1,2,3-Trichlorobenzene	106		105		70-130	1		20
1,2,4-Trichlorobenzene	103		101		70-130	2		20
1,3,5-Trimethylbenzene	91		93		70-130	2		20
1,2,4-Trimethylbenzene	92		94		70-130	2		20
Diethyl ether	92		90		70-130	2		20
Diisopropyl Ether	104		103		70-130	1		20
Ethyl-Tert-Butyl-Ether	99		98		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1677393-3 WG1677393-4								
Tertiary-Amyl Methyl Ether	96		94		70-130	2		20
1,4-Dioxane	98		95		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		94		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	97		97		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01
Client ID: HA22-B1_5.0-9.0
Sample Location: BOSTON, MA

Date Collected: 08/10/22 10:20
Date Received: 08/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/24/22 12:27
Analyst: IM
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/19/22 02:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	76	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	76	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	76	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	76	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	240		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	76	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	76	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	76	--	1
Benzo(a)anthracene	130		ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01 Date Collected: 08/10/22 10:20

Client ID: HA22-B1_5.0-9.0 Date Received: 08/10/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	130		ug/kg	110	--	1
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	120		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	230		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	76	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	--	1
Pyrene	230		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	570		ug/kg	76	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	76	--	1
2-Chlorophenol	ND		ug/kg	76	--	1
2,4-Dichlorophenol	ND		ug/kg	76	--	1
2,4-Dimethylphenol	ND		ug/kg	76	--	1
2-Nitrophenol	ND		ug/kg	390	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	130		ug/kg	36	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01 Date Collected: 08/10/22 10:20

Client ID: HA22-B1_5.0-9.0 Date Received: 08/10/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**23**	Q	30-130
Phenol-d6	60		30-130
Nitrobenzene-d5	67		30-130
2-Fluorobiphenyl	75		30-130
2,4,6-Tribromophenol	**16**	Q	30-130
4-Terphenyl-d14	67		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01 RE
Client ID: HA22-B1_5.0-9.0
Sample Location: BOSTON, MA

Date Collected: 08/10/22 10:20
Date Received: 08/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/26/22 02:53
Analyst: CMM
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/25/22 10:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	77	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	77	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	77	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	77	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	160		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	77	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	77	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	77	--	1
Benzo(a)anthracene	ND		ug/kg	110	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01 RE Date Collected: 08/10/22 10:20

Client ID: HA22-B1_5.0-9.0 Date Received: 08/10/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	150	--	1
Benzo(b)fluoranthene	ND		ug/kg	110	--	1
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	ND		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	ND		ug/kg	150	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	230		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	77	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	--	1
Pyrene	180		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	650		ug/kg	77	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	77	--	1
2-Chlorophenol	ND		ug/kg	77	--	1
2,4-Dichlorophenol	ND		ug/kg	77	--	1
2,4-Dimethylphenol	ND		ug/kg	77	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	150		ug/kg	37	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

SAMPLE RESULTS

Lab ID:	L2243151-01	RE	Date Collected:	08/10/22 10:20
Client ID:	HA22-B1_5.0-9.0		Date Received:	08/10/22
Sample Location:	BOSTON, MA		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**29**	Q	30-130
Phenol-d6	68		30-130
Nitrobenzene-d5	93		30-130
2-Fluorobiphenyl	71		30-130
2,4,6-Tribromophenol	**24**	Q	30-130
4-Terphenyl-d14	65		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/19/22 10:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/18/22 18:39

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1677002-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	70	--
Bis(2-chloroethyl)ether	ND		ug/kg	70	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	70	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	70	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	70	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	70	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	70	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/19/22 10:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/18/22 18:39

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1677002-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	70	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	70	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	70	--
2-Chlorophenol	ND		ug/kg	70	--
2,4-Dichlorophenol	ND		ug/kg	70	--
2,4-Dimethylphenol	ND		ug/kg	70	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/19/22 10:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/18/22 18:39

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1677002-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	103		30-130
Phenol-d6	103		30-130
Nitrobenzene-d5	91		30-130
2-Fluorobiphenyl	102		30-130
2,4,6-Tribromophenol	112		30-130
4-Terphenyl-d14	111		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/24/22 23:30
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 08/24/22 18:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1679302-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/24/22 23:30
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 08/24/22 18:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1679302-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/24/22 23:30
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 08/24/22 18:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1679302-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	82		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	65		30-130
2-Fluorobiphenyl	84		30-130
2,4,6-Tribromophenol	89		30-130
4-Terphenyl-d14	81		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1677002-2 WG1677002-3								
Acenaphthene	110		96		40-140	14		30
1,2,4-Trichlorobenzene	104		87		40-140	18		30
Hexachlorobenzene	114		99		40-140	14		30
Bis(2-chloroethyl)ether	95		78		40-140	20		30
2-Chloronaphthalene	109		93		40-140	16		30
1,2-Dichlorobenzene	98		83		40-140	17		30
1,3-Dichlorobenzene	98		83		40-140	17		30
1,4-Dichlorobenzene	97		81		40-140	18		30
3,3'-Dichlorobenzidine	86		74		40-140	15		30
2,4-Dinitrotoluene	116		101		40-140	14		30
2,6-Dinitrotoluene	111		96		40-140	14		30
Azobenzene	112		100		40-140	11		30
Fluoranthene	111		98		40-140	12		30
4-Bromophenyl phenyl ether	113		99		40-140	13		30
Bis(2-chloroisopropyl)ether	82		70		40-140	16		30
Bis(2-chloroethoxy)methane	101		87		40-140	15		30
Hexachlorobutadiene	106		88		40-140	19		30
Hexachloroethane	96		82		40-140	16		30
Isophorone	97		82		40-140	17		30
Naphthalene	104		89		40-140	16		30
Nitrobenzene	98		84		40-140	15		30
Bis(2-ethylhexyl)phthalate	130		112		40-140	15		30
Butyl benzyl phthalate	112		99		40-140	12		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1677002-2 WG1677002-3								
Di-n-butylphthalate	115		101		40-140	13		30
Di-n-octylphthalate	126		108		40-140	15		30
Diethyl phthalate	114		100		40-140	13		30
Dimethyl phthalate	111		97		40-140	13		30
Benzo(a)anthracene	118		101		40-140	16		30
Benzo(a)pyrene	117		101		40-140	15		30
Benzo(b)fluoranthene	119		103		40-140	14		30
Benzo(k)fluoranthene	116		99		40-140	16		30
Chrysene	118		102		40-140	15		30
Acenaphthylene	112		96		40-140	15		30
Anthracene	109		97		40-140	12		30
Benzo(ghi)perylene	109		95		40-140	14		30
Fluorene	114		100		40-140	13		30
Phenanthrene	107		95		40-140	12		30
Dibenzo(a,h)anthracene	111		97		40-140	13		30
Indeno(1,2,3-cd)pyrene	120		102		40-140	16		30
Pyrene	110		97		40-140	13		30
Aniline	76		68		40-140	11		30
4-Chloroaniline	82		69		40-140	17		30
Dibenzofuran	112		99		40-140	12		30
2-Methylnaphthalene	109		93		40-140	16		30
Acetophenone	97		82		40-140	17		30
2,4,6-Trichlorophenol	114		97		30-130	16		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1677002-2 WG1677002-3								
2-Chlorophenol	107		90		30-130	17		30
2,4-Dichlorophenol	113		96		30-130	16		30
2,4-Dimethylphenol	108		93		30-130	15		30
2-Nitrophenol	101		86		30-130	16		30
4-Nitrophenol	111		96		30-130	14		30
2,4-Dinitrophenol	62		60		30-130	3		30
Pentachlorophenol	71		62		30-130	14		30
Phenol	105		83		30-130	23		30
2-Methylphenol	107		92		30-130	15		30
3-Methylphenol/4-Methylphenol	104		89		30-130	16		30
2,4,5-Trichlorophenol	114		98		30-130	15		30
Pyridine	71		58		30-130	20		30
Biphenyl	106		91		40-140	15		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	108		89		30-130
Phenol-d6	108		91		30-130
Nitrobenzene-d5	97		81		30-130
2-Fluorobiphenyl	109		93		30-130
2,4,6-Tribromophenol	111		96		30-130
4-Terphenyl-d14	104		91		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1679302-2 WG1679302-3								
Acenaphthene	64		63		40-140	2		30
1,2,4-Trichlorobenzene	62		64		40-140	3		30
Hexachlorobenzene	80		76		40-140	5		30
Bis(2-chloroethyl)ether	69		64		40-140	8		30
2-Chloronaphthalene	73		69		40-140	6		30
1,2-Dichlorobenzene	65		62		40-140	5		30
1,3-Dichlorobenzene	62		60		40-140	3		30
1,4-Dichlorobenzene	62		59		40-140	5		30
3,3'-Dichlorobenzidine	54		55		40-140	2		30
2,4-Dinitrotoluene	77		72		40-140	7		30
2,6-Dinitrotoluene	80		67		40-140	18		30
Azobenzene	64		63		40-140	2		30
Fluoranthene	73		69		40-140	6		30
4-Bromophenyl phenyl ether	78		74		40-140	5		30
Bis(2-chloroisopropyl)ether	79		71		40-140	11		30
Bis(2-chloroethoxy)methane	60		66		40-140	10		30
Hexachlorobutadiene	77		71		40-140	8		30
Hexachloroethane	57		61		40-140	7		30
Isophorone	54		60		40-140	11		30
Naphthalene	68		65		40-140	5		30
Nitrobenzene	57		63		40-140	10		30
Bis(2-ethylhexyl)phthalate	69		64		40-140	8		30
Butyl benzyl phthalate	68		64		40-140	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1679302-2 WG1679302-3								
Di-n-butylphthalate	73		69		40-140	6		30
Di-n-octylphthalate	69		66		40-140	4		30
Diethyl phthalate	71		68		40-140	4		30
Dimethyl phthalate	75		62		40-140	19		30
Benzo(a)anthracene	70		68		40-140	3		30
Benzo(a)pyrene	70		73		40-140	4		30
Benzo(b)fluoranthene	76		82		40-140	8		30
Benzo(k)fluoranthene	66		64		40-140	3		30
Chrysene	72		71		40-140	1		30
Acenaphthylene	72		63		40-140	13		30
Anthracene	72		70		40-140	3		30
Benzo(ghi)perylene	72		71		40-140	1		30
Fluorene	70		68		40-140	3		30
Phenanthrene	72		70		40-140	3		30
Dibenzo(a,h)anthracene	69		70		40-140	1		30
Indeno(1,2,3-cd)pyrene	74		75		40-140	1		30
Pyrene	73		69		40-140	6		30
Aniline	60		57		40-140	5		30
4-Chloroaniline	**37**	Q	**35**	Q	40-140	6		30
Dibenzofuran	71		69		40-140	3		30
2-Methylnaphthalene	74		69		40-140	7		30
Acetophenone	66		63		40-140	5		30
2,4,6-Trichlorophenol	78		74		30-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1679302-2 WG1679302-3								
2-Chlorophenol	70		66		30-130	6		30
2,4-Dichlorophenol	66		69		30-130	4		30
2,4-Dimethylphenol	60		66		30-130	10		30
2-Nitrophenol	65		70		30-130	7		30
4-Nitrophenol	68		66		30-130	3		30
2,4-Dinitrophenol	30		**24**	Q	30-130	22		30
Pentachlorophenol	57		48		30-130	17		30
Phenol	69		66		30-130	4		30
2-Methylphenol	69		64		30-130	8		30
3-Methylphenol/4-Methylphenol	68		64		30-130	6		30
2,4,5-Trichlorophenol	86		78		30-130	10		30
Pyridine	53		52		30-130	2		30
Biphenyl	74		69		40-140	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	73		70		30-130
Phenol-d6	77		73		30-130
Nitrobenzene-d5	58		66		30-130
2-Fluorobiphenyl	76		73		30-130
2,4,6-Tribromophenol	94		89		30-130
4-Terphenyl-d14	76		71		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2243151
Project Number: 134206-006
Report Date: 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01 D
Client ID: HA22-B1_5.0-9.0
Sample Location: BOSTON, MA

Date Collected: 08/10/22 10:20
Date Received: 08/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/23/22 13:23
Analyst: MC
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/19/22 02:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	982000		ug/kg	72800	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	108		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/19/22 14:03
Analyst: MC

Extraction Method: EPA 3546
Extraction Date: 08/18/22 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1676861-1					
TPH (C10-C36)	ND		ug/kg	33100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1676861-2								
TPH (C10-C36)	119		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	74				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01
Client ID: HA22-B1_5.0-9.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/20/22 12:00
Analyst: SDC
Percent Solids: 90%

Date Collected: 08/10/22 10:20
Date Received: 08/10/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/19/22 04:29
Cleanup Method: EPA 3665A
Cleanup Date: 08/19/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/20/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.7	--	1	A
Aroclor 1221	ND		ug/kg	36.7	--	1	A
Aroclor 1232	ND		ug/kg	36.7	--	1	A
Aroclor 1242	ND		ug/kg	36.7	--	1	A
Aroclor 1248	ND		ug/kg	36.7	--	1	A
Aroclor 1254	ND		ug/kg	36.7	--	1	A
Aroclor 1260	ND		ug/kg	36.7	--	1	A
Aroclor 1262	ND		ug/kg	36.7	--	1	A
Aroclor 1268	ND		ug/kg	36.7	--	1	A
PCBs, Total	ND		ug/kg	36.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	B
Decachlorobiphenyl	67		30-150	B
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	60		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN UI
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/20/22 11:09
Analyst: SDC

Extraction Method: EPA 3546
Extraction Date: 08/19/22 04:09
Cleanup Method: EPA 3665A
Cleanup Date: 08/19/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/20/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1677114-1						
Aroclor 1016	ND		ug/kg	31.6	--	A
Aroclor 1221	ND		ug/kg	31.6	--	A
Aroclor 1232	ND		ug/kg	31.6	--	A
Aroclor 1242	ND		ug/kg	31.6	--	A
Aroclor 1248	ND		ug/kg	31.6	--	A
Aroclor 1254	ND		ug/kg	31.6	--	A
Aroclor 1260	ND		ug/kg	31.6	--	A
Aroclor 1262	ND		ug/kg	31.6	--	A
Aroclor 1268	ND		ug/kg	31.6	--	A
PCBs, Total	ND		ug/kg	31.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	95		30-150	B
Decachlorobiphenyl	87		30-150	B
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	70		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1677114-2 WG1677114-3									
Aroclor 1016	80		86		40-140	7		30	A
Aroclor 1260	61		62		40-140	2		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		99		30-150	B
Decachlorobiphenyl	73		77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	89		97		30-150	A
Decachlorobiphenyl	63		67		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Lab Number: L2243151
Project Number: 134206-006
Report Date: 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01
Client ID: HA22-B1_5.0-9.0
Sample Location: BOSTON, MA

Date Collected: 08/10/22 10:20
Date Received: 08/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.20	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Arsenic, Total	1.50		mg/kg	0.439	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Barium, Total	12.3		mg/kg	0.439	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Beryllium, Total	ND		mg/kg	0.220	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Cadmium, Total	ND		mg/kg	0.439	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Chromium, Total	17.6		mg/kg	0.439	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Lead, Total	3.37		mg/kg	2.20	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Mercury, Total	ND		mg/kg	0.083	--	1	08/12/22 00:18	08/12/22 14:26	EPA 7471B	97,7471B	DMB
Nickel, Total	5.94		mg/kg	1.10	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Selenium, Total	ND		mg/kg	2.20	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Silver, Total	ND		mg/kg	0.439	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Thallium, Total	ND		mg/kg	2.20	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Vanadium, Total	9.61		mg/kg	0.439	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF
Zinc, Total	15.2		mg/kg	2.20	--	1	08/11/22 23:05	08/16/22 13:40	EPA 3050B	97,6010D	JF

Project Name: MATTHEWS ARENA-NORTHEASTERN UN **Lab Number:** L2243151

Project Number: 134206-006 **Report Date:** 08/26/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1674098-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Arsenic, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Barium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Beryllium, Total	ND		mg/kg	0.200	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Cadmium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Chromium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Lead, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Nickel, Total	ND		mg/kg	1.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Selenium, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Silver, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Thallium, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Vanadium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Zinc, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1674103-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/12/22 00:18	08/12/22 13:53	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1674098-2 WG1674098-3 SRM Lot Number: D113-540								
Antimony, Total	126		116		20-250	8		30
Arsenic, Total	96		96		70-130	0		30
Barium, Total	93		92		75-125	1		30
Beryllium, Total	99		99		75-125	0		30
Cadmium, Total	93		87		75-125	7		30
Chromium, Total	95		88		70-130	8		30
Lead, Total	92		91		72-128	1		30
Nickel, Total	94		90		70-130	4		30
Selenium, Total	96		96		66-134	0		30
Silver, Total	97		88		70-131	10		30
Thallium, Total	92		91		70-130	1		30
Vanadium, Total	95		89		74-126	7		30
Zinc, Total	93		88		70-130	6		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1674103-2 WG1674103-3 SRM Lot Number: D113-540								
Mercury, Total	91		97		60-140	6		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

SAMPLE RESULTS

Lab ID:	L2243151-01	Date Collected:	08/10/22 10:20
Client ID:	HA22-B1_5.0-9.0	Date Received:	08/10/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Sand
Particle Size:	Coarse
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/19/22 14:31	1,1030	MD

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

SAMPLE RESULTS

Lab ID: L2243151-01
Client ID: HA22-B1_5.0-9.0
Sample Location: BOSTON, MA

Date Collected: 08/10/22 10:20
Date Received: 08/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	150		umhos/cm	10	--	1	-	08/18/22 04:58	1,9050A	GB
Solids, Total	89.7		%	0.100	NA	1	-	08/11/22 20:47	121,2540G	MF
pH (H)	10.8		SU	-	NA	1	-	08/17/22 23:37	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/16/22 08:30	08/16/22 11:13	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/16/22 08:30	08/16/22 10:18	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-006
Lab Number: L2243151
Report Date: 08/26/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1675356-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/16/22 08:30	08/16/22 09:56	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1675656-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/16/22 08:30	08/16/22 10:54	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN UN

Project Number: 134206-006

Lab Number: L2243151

Report Date: 08/26/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1675356-2								
Sulfide, Reactive	103		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1675656-2								
Cyanide, Reactive	76		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1676559-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1676575-1								
Specific Conductance	100		-		99-101	-		

Project Name: MATTHEWS ARENA-NORTHEASTERN UN
Project Number: 134206-006

Lab Number: L2243151
Report Date: 08/26/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243151-01A	Vial MeOH preserved	A	NA		3.0	Y	Absent		MCP-8260HLW-21(14)
L2243151-01B	Vial water preserved	A	NA		3.0	Y	Absent	10-AUG-22 22:35	MCP-8260HLW-21(14)
L2243151-01C	Vial water preserved	A	NA		3.0	Y	Absent	10-AUG-22 22:35	MCP-8260HLW-21(14)
L2243151-01D	Vial Large Septa unpreserved (4oz)	A	NA		3.0	Y	Absent		MCP-8260HLW-21(14)
L2243151-01F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2243151-01G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		3.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2243151-01H	Glass 250ml/8oz unpreserved	A	NA		3.0	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243151-01I	Glass 500ml/16oz unpreserved	A	NA		3.0	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN UN	**Lab Number:**	L2243151
Project Number:	134206-006	**Report Date:**	08/26/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 8/10/22

ALPHA Job # L2243151

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project # 134206-006
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
43151-01	HA22-B1_5.0-9.0	8/10/2022	1020	SO/F	MJD	5-9	x	x	x	x	x	x	x	x		8

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	A V	A	A	A	A	A	A	A
Preservative	F A	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]		Rob Maestro AAL	8/10/22 1600
Rob Maestro	8/10/22 1715	[signature]	8/10/22 1715

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2243151
Project Name	: MATTHEWS ARENA-NORTHEASTERN Univ	**Project Number**	: 134206-006
Lab Sample ID	: WG1677393-5	**Lab File ID**	: V262208180A05
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 08/18/22 09:53

Client Sample No.	Lab Sample ID	Analysis Date
WG1677393-3LCS	WG1677393-3	08/18/22 07:56
WG1677393-4LCSD	WG1677393-4	08/18/22 08:35
HA22-B1_5.0-9.0	L2243151-01	08/18/22 17:33

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243151		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA126	Calibration Date	: 08/18/22 07:18		
Lab File ID	: V262208180A01	Init. Calib. Date(s)	: 07/13/22	07/14/22	
Sample No	: WG1677393-2	Init. Calib. Times	: 21:35	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	130	-.01
Dichlorodifluoromethane	0.23	0.122	-	47*	20	68	0
Chloromethane	0.24	0.198	-	17.5	20	111	.01
Vinyl chloride	0.306	0.232	-	24.2*	20	95	0
Bromomethane	0.174	0.154	-	11.5	20	121	0
Chloroethane	0.144	0.149	-	-3.5	20	133	0
Trichlorofluoromethane	0.354	0.347	-	2	20	126	0
Ethyl ether	0.099	0.098	-	1	20	126	0
1,1-Dichloroethene	0.195	0.199	-	-2.1	20	131	0
Carbon disulfide	0.637	0.585	-	8.2	20	124	0
Freon-113	0.216	0.235	-	-8.8	20	139	0
Acrolein	0.023	0.022	-	4.3	20	129	0
Methylene chloride	40	39.352	-	1.6	20	132	-.01
Acetone	40	39.85	-	0.4	20	129	0
trans-1,2-Dichloroethene	0.229	0.238	-	-3.9	20	133	0
Methyl acetate	0.095	0.099	-	-4.2	20	145	0
Methyl tert-butyl ether	0.541	0.53	-	2	20	126	0
tert-Butyl alcohol	0.017	0.017	-	0	20	142	-.02
Diisopropyl ether	0.652	0.74	-	-13.5	20	140	0
1,1-Dichloroethane	0.408	0.432	-	-5.9	20	135	0
Halothane	0.175	0.189	-	-8	20	138	0
Acrylonitrile	40	40.827	-	-2.1	20	139	0
Ethyl tert-butyl ether	0.664	0.712	-	-7.2	20	135	0
Vinyl acetate	0.329	0.351	-	-6.7	20	138	0
cis-1,2-Dichloroethene	0.252	0.258	-	-2.4	20	130	0
2,2-Dichloropropane	0.354	0.388	-	-9.6	20	139	0
Bromochloromethane	0.107	0.109	-	-1.9	20	130	0
Cyclohexane	0.371	0.423	-	-14	20	143	0
Chloroform	0.43	0.442	-	-2.8	20	129	0
Ethyl acetate	0.133	0.141	-	-6	20	139	0
Carbon tetrachloride	0.337	0.348	-	-3.3	20	130	0
Tetrahydrofuran	40	39.88	-	0.3	20	136	0
Dibromofluoromethane	0.261	0.252	-	3.4	20	128	-.01
1,1,1-Trichloroethane	0.365	0.379	-	-3.8	20	131	0
2-Butanone	0.066	0.064	-	3	20	137	0
1,1-Dichloropropene	0.308	0.325	-	-5.5	20	133	0
Benzene	0.919	0.949	-	-3.3	20	128	0
tert-Amyl methyl ether	0.583	0.599	-	-2.7	20	128	0
1,2-Dichloroethane-d4	0.263	0.25	-	4.9	20	128	0
1,2-Dichloroethane	0.302	0.299	-	1	20	127	0
Methyl cyclohexane	0.4	0.423	-	-5.7	20	134	-.01
Trichloroethene	0.238	0.251	-	-5.5	20	132	0
Dibromomethane	0.128	0.125	-	2.3	20	127	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243151		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA126	Calibration Date	: 08/18/22 07:18		
Lab File ID	: V262208180A01	Init. Calib. Date(s)	: 07/13/22	07/14/22	
Sample No	: WG1677393-2	Init. Calib. Times	: 21:35	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.227	0.243	-	-7	20	133	-.01
2-Chloroethyl vinyl ether	0.094	0.096	-	-2.1	20	132	0
Bromodichloromethane	0.311	0.324	-	-4.2	20	127	0
1,4-Dioxane	0.00148	0.00166*	-	-12.2	20	149	0
cis-1,3-Dichloropropene	0.353	0.378	-	-7.1	20	133	0
Chlorobenzene-d5	1	1	-	0	20	136	0
Toluene-d8	1.39	1.349	-	2.9	20	130	0
Toluene	0.816	0.81	-	0.7	20	128	0
4-Methyl-2-pentanone	0.08	0.083	-	-3.8	20	134	0
Tetrachloroethene	0.326	0.339	-	-4	20	136	0
trans-1,3-Dichloropropene	0.435	0.438	-	-0.7	20	129	0
Ethyl methacrylate	0.35	0.331	-	5.4	20	126	0
1,1,2-Trichloroethane	0.201	0.2*	-	0.5	20	131	0
Chlorodibromomethane	0.281	0.284	-	-1.1	20	129	0
1,3-Dichloropropane	0.412	0.404	-	1.9	20	130	0
1,2-Dibromoethane	0.223	0.22	-	1.3	20	129	0
2-Hexanone	0.143	0.142	-	0.7	20	132	-.01
Chlorobenzene	0.88	0.867	-	1.5	20	128	0
Ethylbenzene	1.528	1.545	-	-1.1	20	127	0
1,1,1,2-Tetrachloroethane	0.312	0.315	-	-1	20	127	0
p/m Xylene	0.6	0.599	-	0.2	20	124	0
o Xylene	0.576	0.569	-	1.2	20	123	0
Styrene	80	70.953	-	11.3	20	119	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	131	0
Bromoform	40	33.507	-	16.2	20	126	0
Isopropylbenzene	3.027	3.008	-	0.6	20	124	0
4-Bromofluorobenzene	0.917	0.924	-	-0.8	20	134	0
Bromobenzene	0.703	0.69	-	1.8	20	125	0
n-Propylbenzene	3.594	3.633	-	-1.1	20	124	0
1,4-Dichlorobutane	0.774	0.79	-	-2.1	20	132	0
1,1,2,2-Tetrachloroethane	0.557	0.539	-	3.2	20	127	0
4-Ethyltoluene	2.937	2.974	-	-1.3	20	124	0
2-Chlorotoluene	2.429	2.351	-	3.2	20	121	0
1,3,5-Trimethylbenzene	2.556	2.517	-	1.5	20	121	0
1,2,3-Trichloropropane	0.41	0.395	-	3.7	20	127	0
trans-1,4-Dichloro-2-buten	0.198	0.195	-	1.5	20	128	0
4-Chlorotoluene	2.161	2.162	-	-0	20	123	0
tert-Butylbenzene	2.154	2.156	-	-0.1	20	125	0
1,2,4-Trimethylbenzene	2.483	2.469	-	0.6	20	123	0
sec-Butylbenzene	3.256	3.284	-	-0.9	20	123	0
p-Isopropyltoluene	2.773	2.768	-	0.2	20	122	0
1,3-Dichlorobenzene	1.382	1.357	-	1.8	20	123	0
1,4-Dichlorobenzene	1.36	1.337	-	1.7	20	125	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243151		
Project Name	: MATTHEWS ARENA-NORTHEASTERN UN	Project Number	: 134206-006		
Instrument ID	: VOA126	Calibration Date	: 08/18/22 07:18		
Lab File ID	: V262208180A01	Init. Calib. Date(s)	: 07/13/22	07/14/22	
Sample No	: WG1677393-2	Init. Calib. Times	: 21:35	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.724	1.737	-	-0.8	20	123	0
n-Butylbenzene	3.193	3.108	-	2.7	20	119	0
1,2-Dichlorobenzene	1.253	1.213	-	3.2	20	123	0
1,2,4,5-Tetramethylbenzene	2.393	2.472	-	-3.3	20	124	0
1,2-Dibromo-3-chloropropan	0.078	0.074	-	5.1	20	125	0
1,3,5-Trichlorobenzene	0.897	0.977	-	-8.9	20	138	0
Hexachlorobutadiene	0.393	0.448	-	-14	20	146	0
1,2,4-Trichlorobenzene	0.745	0.809	-	-8.6	20	139	0
Naphthalene	1.461	1.48	-	-1.3	20	129	0
1,2,3-Trichlorobenzene	0.601	0.674	-	-12.1	20	139	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2243206
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/16/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2243206-01	HA22-TP4_0.0-5.0	SOIL	BOSTON, MA	07/28/22 08:00	07/28/22
L2243206-02	HA22-TP4_5.0-11.0	SOIL	BOSTON, MA	07/28/22 09:10	07/28/22
L2243206-03	HA22-TP5_0.0-5.0	SOIL	BOSTON, MA	07/28/22 11:15	07/28/22
L2243206-04	HA22-TP5_5.0-10.0	SOIL	BOSTON, MA	07/28/22 12:15	07/28/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2243206-01 through -04: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromochloromethane (0.0998), bromodichloromethane (0.2690), 1,4-dioxane (0.0013), 1,1,2-trichloroethane (0.1901)

Average Response Factor: 1,4-dioxane

L2243206-01 through -04: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2243206-02D: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L2243206-01D, -02D, -03D, and -04D: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L2243206-01D: The surrogate recoveries are below the acceptance criteria for 2-fluorophenol (0%), phenol-d6 (0%), nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%), 2,4,6-tribromophenol (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 08/16/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1674332-3	Vinyl chloride	LCS	66	70-130	01-04	potential low bias
8260D	Batch QC	WG1674332-3	Dichlorodifluoromethane	LCS	46	70-130	01-04	potential low bias
8260D	Batch QC	WG1674332-4	Vinyl chloride	LCSD	66	70-130	01-04	potential low bias
8260D	Batch QC	WG1674332-4	Dichlorodifluoromethane	LCSD	46	70-130	01-04	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270E	HA22-TP4_0.0-5.0	L2243206-01 D	2-Fluorophenol	Surrogate	0	30-130	-	- - not applicable - -
8270E	HA22-TP4_0.0-5.0	L2243206-01 D	Phenol-d6	Surrogate	0	30-130	-	- - not applicable - -
8270E	HA22-TP4_0.0-5.0	L2243206-01 D	Nitrobenzene-d5	Surrogate	0	30-130	-	- - not applicable - -
8270E	HA22-TP4_0.0-5.0	L2243206-01 D	2-Fluorobiphenyl	Surrogate	0	30-130	-	- - not applicable - -
8270E	HA22-TP4_0.0-5.0	L2243206-01 D	2,4,6-Tribromophenol	Surrogate	0	30-130	-	- - not applicable - -
8270E	HA22-TP4_0.0-5.0	L2243206-01 D	4-Terphenyl-d14	Surrogate	0	30-130	-	- - not applicable - -
8270E	Batch QC	WG1673280-3	2,4-Dinitrophenol	LCSD	33	30	01-04	non-directional bias
8270E	Batch QC	WG1673280-3	2,4,6-Tribromophenol	Surrogate	135	30-130	-	potential high bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01
Client ID: HA22-TP4_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 08:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/11/22 12:58
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.6	--	1
Chloroform	ND		ug/kg	2.4	--	1
Carbon tetrachloride	ND		ug/kg	1.6	--	1
1,2-Dichloropropane	ND		ug/kg	1.6	--	1
Dibromochloromethane	ND		ug/kg	1.6	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.6	--	1
Tetrachloroethene	ND		ug/kg	0.80	--	1
Chlorobenzene	ND		ug/kg	0.80	--	1
Trichlorofluoromethane	ND		ug/kg	6.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.6	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.80	--	1
Bromodichloromethane	ND		ug/kg	0.80	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.6	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.80	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.80	--	1
1,1-Dichloropropene	ND		ug/kg	0.80	--	1
Bromoform	ND		ug/kg	6.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.80	--	1
Benzene	ND		ug/kg	0.80	--	1
Toluene	ND		ug/kg	1.6	--	1
Ethylbenzene	ND		ug/kg	1.6	--	1
Chloromethane	ND		ug/kg	6.4	--	1
Bromomethane	ND		ug/kg	3.2	--	1
Vinyl chloride	ND		ug/kg	1.6	--	1
Chloroethane	ND		ug/kg	3.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.6	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.4	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01 Date Collected: 07/28/22 08:00

Client ID: HA22-TP4_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.80	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.2	--	1
Methyl tert butyl ether	ND		ug/kg	3.2	--	1
p/m-Xylene	ND		ug/kg	3.2	--	1
o-Xylene	ND		ug/kg	1.6	--	1
Xylenes, Total	ND		ug/kg	1.6	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.6	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.6	--	1
Dibromomethane	ND		ug/kg	3.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.2	--	1
Styrene	ND		ug/kg	1.6	--	1
Dichlorodifluoromethane	ND		ug/kg	16	--	1
Acetone	ND		ug/kg	40	--	1
Carbon disulfide	ND		ug/kg	16	--	1
Methyl ethyl ketone	ND		ug/kg	16	--	1
Methyl isobutyl ketone	ND		ug/kg	16	--	1
2-Hexanone	ND		ug/kg	16	--	1
Bromochloromethane	ND		ug/kg	3.2	--	1
Tetrahydrofuran	ND		ug/kg	6.4	--	1
2,2-Dichloropropane	ND		ug/kg	3.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.6	--	1
1,3-Dichloropropane	ND		ug/kg	3.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.80	--	1
Bromobenzene	ND		ug/kg	3.2	--	1
n-Butylbenzene	ND		ug/kg	1.6	--	1
sec-Butylbenzene	ND		ug/kg	1.6	--	1
tert-Butylbenzene	ND		ug/kg	3.2	--	1
o-Chlorotoluene	ND		ug/kg	3.2	--	1
p-Chlorotoluene	ND		ug/kg	3.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.8	--	1
Hexachlorobutadiene	ND		ug/kg	6.4	--	1
Isopropylbenzene	ND		ug/kg	1.6	--	1
p-Isopropyltoluene	ND		ug/kg	1.6	--	1
Naphthalene	ND		ug/kg	6.4	--	1
n-Propylbenzene	ND		ug/kg	1.6	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01 Date Collected: 07/28/22 08:00

Client ID: HA22-TP4_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	3.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.2	--	1
Diethyl ether	ND		ug/kg	3.2	--	1
Diisopropyl Ether	ND		ug/kg	3.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.2	--	1
1,4-Dioxane	ND		ug/kg	130	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	101		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/11/22 13:37
Analyst: KJD
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.8	--	1
1,1-Dichloroethane	ND		ug/kg	1.4	--	1
Chloroform	ND		ug/kg	2.0	--	1
Carbon tetrachloride	ND		ug/kg	1.4	--	1
1,2-Dichloropropane	ND		ug/kg	1.4	--	1
Dibromochloromethane	ND		ug/kg	1.4	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	--	1
Tetrachloroethene	ND		ug/kg	0.68	--	1
Chlorobenzene	ND		ug/kg	0.68	--	1
Trichlorofluoromethane	ND		ug/kg	5.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.4	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.68	--	1
Bromodichloromethane	ND		ug/kg	0.68	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.68	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.68	--	1
1,1-Dichloropropene	ND		ug/kg	0.68	--	1
Bromoform	ND		ug/kg	5.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.68	--	1
Benzene	ND		ug/kg	0.68	--	1
Toluene	ND		ug/kg	1.4	--	1
Ethylbenzene	ND		ug/kg	1.4	--	1
Chloromethane	ND		ug/kg	5.4	--	1
Bromomethane	ND		ug/kg	2.7	--	1
Vinyl chloride	ND		ug/kg	1.4	--	1
Chloroethane	ND		ug/kg	2.7	--	1
1,1-Dichloroethene	ND		ug/kg	1.4	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.0	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02 Date Collected: 07/28/22 09:10

Client ID: HA22-TP4_5.0-11.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.68	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.7	--	1
Methyl tert butyl ether	ND		ug/kg	2.7	--	1
p/m-Xylene	ND		ug/kg	2.7	--	1
o-Xylene	ND		ug/kg	1.4	--	1
Xylenes, Total	ND		ug/kg	1.4	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.4	--	1
Dibromomethane	ND		ug/kg	2.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.7	--	1
Styrene	ND		ug/kg	1.4	--	1
Dichlorodifluoromethane	ND		ug/kg	14	--	1
Acetone	ND		ug/kg	34	--	1
Carbon disulfide	ND		ug/kg	14	--	1
Methyl ethyl ketone	ND		ug/kg	14	--	1
Methyl isobutyl ketone	ND		ug/kg	14	--	1
2-Hexanone	ND		ug/kg	14	--	1
Bromochloromethane	ND		ug/kg	2.7	--	1
Tetrahydrofuran	ND		ug/kg	5.4	--	1
2,2-Dichloropropane	ND		ug/kg	2.7	--	1
1,2-Dibromoethane	ND		ug/kg	1.4	--	1
1,3-Dichloropropane	ND		ug/kg	2.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.68	--	1
Bromobenzene	ND		ug/kg	2.7	--	1
n-Butylbenzene	ND		ug/kg	1.4	--	1
sec-Butylbenzene	ND		ug/kg	1.4	--	1
tert-Butylbenzene	ND		ug/kg	2.7	--	1
o-Chlorotoluene	ND		ug/kg	2.7	--	1
p-Chlorotoluene	ND		ug/kg	2.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.1	--	1
Hexachlorobutadiene	ND		ug/kg	5.4	--	1
Isopropylbenzene	ND		ug/kg	1.4	--	1
p-Isopropyltoluene	ND		ug/kg	1.4	--	1
Naphthalene	ND		ug/kg	5.4	--	1
n-Propylbenzene	ND		ug/kg	1.4	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02 Date Collected: 07/28/22 09:10

Client ID: HA22-TP4_5.0-11.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.7	--	1
Diethyl ether	ND		ug/kg	2.7	--	1
Diisopropyl Ether	ND		ug/kg	2.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.7	--	1
1,4-Dioxane	ND		ug/kg	110	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	100		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03
Client ID: HA22-TP5_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 11:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/11/22 14:15
Analyst: KJD
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	7.3	--	1
1,1-Dichloroethane	ND		ug/kg	1.4	--	1
Chloroform	ND		ug/kg	2.2	--	1
Carbon tetrachloride	ND		ug/kg	1.4	--	1
1,2-Dichloropropane	ND		ug/kg	1.4	--	1
Dibromochloromethane	ND		ug/kg	1.4	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	--	1
Tetrachloroethene	ND		ug/kg	0.73	--	1
Chlorobenzene	ND		ug/kg	0.73	--	1
Trichlorofluoromethane	ND		ug/kg	5.8	--	1
1,2-Dichloroethane	ND		ug/kg	1.4	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.73	--	1
Bromodichloromethane	ND		ug/kg	0.73	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.73	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.73	--	1
1,1-Dichloropropene	ND		ug/kg	0.73	--	1
Bromoform	ND		ug/kg	5.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.73	--	1
Benzene	ND		ug/kg	0.73	--	1
Toluene	ND		ug/kg	1.4	--	1
Ethylbenzene	ND		ug/kg	1.4	--	1
Chloromethane	ND		ug/kg	5.8	--	1
Bromomethane	ND		ug/kg	2.9	--	1
Vinyl chloride	ND		ug/kg	1.4	--	1
Chloroethane	ND		ug/kg	2.9	--	1
1,1-Dichloroethene	ND		ug/kg	1.4	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.2	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03 Date Collected: 07/28/22 11:15

Client ID: HA22-TP5_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.73	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.9	--	1
Methyl tert butyl ether	ND		ug/kg	2.9	--	1
p/m-Xylene	ND		ug/kg	2.9	--	1
o-Xylene	ND		ug/kg	1.4	--	1
Xylenes, Total	ND		ug/kg	1.4	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.4	--	1
Dibromomethane	ND		ug/kg	2.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.9	--	1
Styrene	ND		ug/kg	1.4	--	1
Dichlorodifluoromethane	ND		ug/kg	14	--	1
Acetone	ND		ug/kg	36	--	1
Carbon disulfide	ND		ug/kg	14	--	1
Methyl ethyl ketone	ND		ug/kg	14	--	1
Methyl isobutyl ketone	ND		ug/kg	14	--	1
2-Hexanone	ND		ug/kg	14	--	1
Bromochloromethane	ND		ug/kg	2.9	--	1
Tetrahydrofuran	ND		ug/kg	5.8	--	1
2,2-Dichloropropane	ND		ug/kg	2.9	--	1
1,2-Dibromoethane	ND		ug/kg	1.4	--	1
1,3-Dichloropropane	ND		ug/kg	2.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.73	--	1
Bromobenzene	ND		ug/kg	2.9	--	1
n-Butylbenzene	ND		ug/kg	1.4	--	1
sec-Butylbenzene	ND		ug/kg	1.4	--	1
tert-Butylbenzene	ND		ug/kg	2.9	--	1
o-Chlorotoluene	ND		ug/kg	2.9	--	1
p-Chlorotoluene	ND		ug/kg	2.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.4	--	1
Hexachlorobutadiene	ND		ug/kg	5.8	--	1
Isopropylbenzene	ND		ug/kg	1.4	--	1
p-Isopropyltoluene	ND		ug/kg	1.4	--	1
Naphthalene	ND		ug/kg	5.8	--	1
n-Propylbenzene	ND		ug/kg	1.4	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03 Date Collected: 07/28/22 11:15

Client ID: HA22-TP5_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.9	--	1
Diethyl ether	ND		ug/kg	2.9	--	1
Diisopropyl Ether	ND		ug/kg	2.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.9	--	1
1,4-Dioxane	ND		ug/kg	120	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/11/22 14:54
Analyst: KJD
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.2	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.9	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	1.2	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.62	--	1
Chlorobenzene	ND		ug/kg	0.62	--	1
Trichlorofluoromethane	ND		ug/kg	5.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.62	--	1
Bromodichloromethane	ND		ug/kg	0.62	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.62	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.62	--	1
1,1-Dichloropropene	ND		ug/kg	0.62	--	1
Bromoform	ND		ug/kg	5.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.62	--	1
Benzene	ND		ug/kg	0.62	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	5.0	--	1
Bromomethane	ND		ug/kg	2.5	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.5	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04 Date Collected: 07/28/22 12:15

Client ID: HA22-TP5_5.0-10.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.62	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	--	1
Methyl tert butyl ether	ND		ug/kg	2.5	--	1
p/m-Xylene	ND		ug/kg	2.5	--	1
o-Xylene	ND		ug/kg	1.2	--	1
Xylenes, Total	ND		ug/kg	1.2	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	2.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.5	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	ND		ug/kg	31	--	1
Carbon disulfide	ND		ug/kg	12	--	1
Methyl ethyl ketone	ND		ug/kg	12	--	1
Methyl isobutyl ketone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	2.5	--	1
Tetrahydrofuran	ND		ug/kg	5.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.5	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.62	--	1
Bromobenzene	ND		ug/kg	2.5	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.5	--	1
o-Chlorotoluene	ND		ug/kg	2.5	--	1
p-Chlorotoluene	ND		ug/kg	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.7	--	1
Hexachlorobutadiene	ND		ug/kg	5.0	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	5.0	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04 Date Collected: 07/28/22 12:15

Client ID: HA22-TP5_5.0-10.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.5	--	1
Diethyl ether	ND		ug/kg	2.5	--	1
Diisopropyl Ether	ND		ug/kg	2.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.5	--	1
1,4-Dioxane	ND		ug/kg	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	101		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/11/22 11:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-04 Batch: WG1674332-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/11/22 11:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-04 Batch: WG1674332-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/11/22 11:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-04 Batch: WG1674332-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04 Batch: WG1674332-3 WG1674332-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	98		99		70-130	1		20
1,1-Dichloroethane	102		104		70-130	2		20
Chloroform	103		103		70-130	0		20
Carbon tetrachloride	95		96		70-130	1		20
1,2-Dichloropropane	108		109		70-130	1		20
Dibromochloromethane	101		103		70-130	2		20
1,1,2-Trichloroethane	98		99		70-130	1		20
Tetrachloroethene	94		94		70-130	0		20
Chlorobenzene	95		95		70-130	0		20
Trichlorofluoromethane	89		90		70-130	1		20
1,2-Dichloroethane	101		102		70-130	1		20
1,1,1-Trichloroethane	96		98		70-130	2		20
Bromodichloromethane	107		108		70-130	1		20
trans-1,3-Dichloropropene	99		100		70-130	1		20
cis-1,3-Dichloropropene	110		110		70-130	0		20
1,1-Dichloropropene	97		98		70-130	1		20
Bromoform	83		85		70-130	2		20
1,1,2,2-Tetrachloroethane	92		93		70-130	1		20
Benzene	101		102		70-130	1		20
Toluene	92		93		70-130	1		20
Ethylbenzene	93		93		70-130	0		20
Chloromethane	70		70		70-130	0		20
Bromomethane	84		84		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04 Batch: WG1674332-3 WG1674332-4								
Vinyl chloride	**66**	Q	**66**	Q	70-130	0		20
Chloroethane	94		93		70-130	1		20
1,1-Dichloroethene	95		95		70-130	0		20
trans-1,2-Dichloroethene	99		100		70-130	1		20
Trichloroethene	105		104		70-130	1		20
1,2-Dichlorobenzene	94		94		70-130	0		20
1,3-Dichlorobenzene	93		94		70-130	1		20
1,4-Dichlorobenzene	94		95		70-130	1		20
Methyl tert butyl ether	102		103		70-130	1		20
p/m-Xylene	92		92		70-130	0		20
o-Xylene	93		94		70-130	1		20
cis-1,2-Dichloroethene	103		102		70-130	1		20
Dibromomethane	101		103		70-130	2		20
1,2,3-Trichloropropane	95		95		70-130	0		20
Styrene	86		86		70-130	0		20
Dichlorodifluoromethane	**46**	Q	**46**	Q	70-130	0		20
Acetone	130		128		70-130	2		20
Carbon disulfide	83		84		70-130	1		20
Methyl ethyl ketone	108		110		70-130	2		20
Methyl isobutyl ketone	102		105		70-130	3		20
2-Hexanone	102		104		70-130	2		20
Bromochloromethane	107		108		70-130	1		20
Tetrahydrofuran	101		103		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04 Batch: WG1674332-3 WG1674332-4								
2,2-Dichloropropane	101		101		70-130	0		20
1,2-Dibromoethane	98		100		70-130	2		20
1,3-Dichloropropane	97		98		70-130	1		20
1,1,1,2-Tetrachloroethane	98		99		70-130	1		20
Bromobenzene	95		96		70-130	1		20
n-Butylbenzene	89		90		70-130	1		20
sec-Butylbenzene	91		91		70-130	0		20
tert-Butylbenzene	90		90		70-130	0		20
o-Chlorotoluene	89		89		70-130	0		20
p-Chlorotoluene	92		93		70-130	1		20
1,2-Dibromo-3-chloropropane	95		98		70-130	3		20
Hexachlorobutadiene	102		106		70-130	4		20
Isopropylbenzene	89		89		70-130	0		20
p-Isopropyltoluene	91		92		70-130	1		20
Naphthalene	96		100		70-130	4		20
n-Propylbenzene	90		90		70-130	0		20
1,2,3-Trichlorobenzene	101		106		70-130	5		20
1,2,4-Trichlorobenzene	99		103		70-130	4		20
1,3,5-Trimethylbenzene	90		90		70-130	0		20
1,2,4-Trimethylbenzene	92		92		70-130	0		20
Diethyl ether	104		104		70-130	0		20
Diisopropyl Ether	110		110		70-130	0		20
Ethyl-Tert-Butyl-Ether	106		107		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2243206

Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04 Batch: WG1674332-3 WG1674332-4								
Tertiary-Amyl Methyl Ether	104		105		70-130	1		20
1,4-Dioxane	98		105		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	94		93		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01 D
Client ID: HA22-TP4_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 08:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/16/22 11:52
Analyst: WR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 08/10/22 21:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	3600		ug/kg	3000	--	20
1,2,4-Trichlorobenzene	ND		ug/kg	3700	--	20
Hexachlorobenzene	ND		ug/kg	1600	--	20
Bis(2-chloroethyl)ether	ND		ug/kg	1600	--	20
2-Chloronaphthalene	ND		ug/kg	3700	--	20
1,2-Dichlorobenzene	ND		ug/kg	3700	--	20
1,3-Dichlorobenzene	ND		ug/kg	3700	--	20
1,4-Dichlorobenzene	ND		ug/kg	1600	--	20
3,3'-Dichlorobenzidine	ND		ug/kg	3700	--	20
2,4-Dinitrotoluene	ND		ug/kg	1600	--	20
2,6-Dinitrotoluene	ND		ug/kg	3700	--	20
Azobenzene	ND		ug/kg	3700	--	20
Fluoranthene	60000		ug/kg	2200	--	20
4-Bromophenyl phenyl ether	ND		ug/kg	3700	--	20
Bis(2-chloroisopropyl)ether	ND		ug/kg	1600	--	20
Bis(2-chloroethoxy)methane	ND		ug/kg	4000	--	20
Hexachlorobutadiene	ND		ug/kg	3700	--	20
Hexachloroethane	ND		ug/kg	1600	--	20
Isophorone	ND		ug/kg	3300	--	20
Naphthalene	ND		ug/kg	3700	--	20
Nitrobenzene	ND		ug/kg	3300	--	20
Bis(2-ethylhexyl)phthalate	ND		ug/kg	3700	--	20
Butyl benzyl phthalate	ND		ug/kg	3700	--	20
Di-n-butylphthalate	ND		ug/kg	3700	--	20
Di-n-octylphthalate	ND		ug/kg	3700	--	20
Diethyl phthalate	ND		ug/kg	3700	--	20
Dimethyl phthalate	ND		ug/kg	1600	--	20
Benzo(a)anthracene	23000		ug/kg	2200	--	20

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01 D Date Collected: 07/28/22 08:00

Client ID: HA22-TP4_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	24000		ug/kg	3000	--	20
Benzo(b)fluoranthene	29000		ug/kg	2200	--	20
Benzo(k)fluoranthene	8800		ug/kg	2200	--	20
Chrysene	22000		ug/kg	2200	--	20
Acenaphthylene	ND		ug/kg	3000	--	20
Anthracene	9000		ug/kg	2200	--	20
Benzo(ghi)perylene	15000		ug/kg	3000	--	20
Fluorene	4100		ug/kg	3700	--	20
Phenanthrene	39000		ug/kg	2200	--	20
Dibenzo(a,h)anthracene	2800		ug/kg	1600	--	20
Indeno(1,2,3-cd)pyrene	17000		ug/kg	3000	--	20
Pyrene	51000		ug/kg	2200	--	20
Aniline	ND		ug/kg	4400	--	20
4-Chloroaniline	ND		ug/kg	3700	--	20
Dibenzofuran	ND		ug/kg	3700	--	20
2-Methylnaphthalene	ND		ug/kg	1600	--	20
Acetophenone	ND		ug/kg	3700	--	20
2,4,6-Trichlorophenol	ND		ug/kg	1600	--	20
2-Chlorophenol	ND		ug/kg	1600	--	20
2,4-Dichlorophenol	ND		ug/kg	1600	--	20
2,4-Dimethylphenol	ND		ug/kg	1600	--	20
2-Nitrophenol	ND		ug/kg	8000	--	20
4-Nitrophenol	ND		ug/kg	5200	--	20
2,4-Dinitrophenol	ND		ug/kg	18000	--	20
Pentachlorophenol	ND		ug/kg	7400	--	20
Phenol	ND		ug/kg	3700	--	20
2-Methylphenol	ND		ug/kg	3700	--	20
3-Methylphenol/4-Methylphenol	ND		ug/kg	5300	--	20
2,4,5-Trichlorophenol	ND		ug/kg	3700	--	20
Pyridine	ND		ug/kg	4000	--	20
Biphenyl	ND		ug/kg	740	--	20

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01 D Date Collected: 07/28/22 08:00

Client ID: HA22-TP4_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**0**	Q	30-130
Phenol-d6	**0**	Q	30-130
Nitrobenzene-d5	**0**	Q	30-130
2-Fluorobiphenyl	**0**	Q	30-130
2,4,6-Tribromophenol	**0**	Q	30-130
4-Terphenyl-d14	**0**	Q	30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02 D
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/16/22 12:16
Analyst: WR
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/10/22 21:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	740	--	5
1,2,4-Trichlorobenzene	ND		ug/kg	920	--	5
Hexachlorobenzene	ND		ug/kg	390	--	5
Bis(2-chloroethyl)ether	ND		ug/kg	390	--	5
2-Chloronaphthalene	ND		ug/kg	920	--	5
1,2-Dichlorobenzene	ND		ug/kg	920	--	5
1,3-Dichlorobenzene	ND		ug/kg	920	--	5
1,4-Dichlorobenzene	ND		ug/kg	390	--	5
3,3'-Dichlorobenzidine	ND		ug/kg	920	--	5
2,4-Dinitrotoluene	ND		ug/kg	390	--	5
2,6-Dinitrotoluene	ND		ug/kg	920	--	5
Azobenzene	ND		ug/kg	920	--	5
Fluoranthene	9400		ug/kg	550	--	5
4-Bromophenyl phenyl ether	ND		ug/kg	920	--	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	390	--	5
Bis(2-chloroethoxy)methane	ND		ug/kg	1000	--	5
Hexachlorobutadiene	ND		ug/kg	920	--	5
Hexachloroethane	ND		ug/kg	390	--	5
Isophorone	ND		ug/kg	830	--	5
Naphthalene	ND		ug/kg	920	--	5
Nitrobenzene	ND		ug/kg	830	--	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	920	--	5
Butyl benzyl phthalate	ND		ug/kg	920	--	5
Di-n-butylphthalate	ND		ug/kg	920	--	5
Di-n-octylphthalate	ND		ug/kg	920	--	5
Diethyl phthalate	ND		ug/kg	920	--	5
Dimethyl phthalate	ND		ug/kg	390	--	5
Benzo(a)anthracene	3800		ug/kg	550	--	5

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02 D
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	4000		ug/kg	740	--	5
Benzo(b)fluoranthene	5000		ug/kg	550	--	5
Benzo(k)fluoranthene	1700		ug/kg	550	--	5
Chrysene	3800		ug/kg	550	--	5
Acenaphthylene	ND		ug/kg	740	--	5
Anthracene	1200		ug/kg	550	--	5
Benzo(ghi)perylene	2600		ug/kg	740	--	5
Fluorene	ND		ug/kg	920	--	5
Phenanthrene	5500		ug/kg	550	--	5
Dibenzo(a,h)anthracene	500		ug/kg	390	--	5
Indeno(1,2,3-cd)pyrene	3000		ug/kg	740	--	5
Pyrene	7900		ug/kg	550	--	5
Aniline	ND		ug/kg	1100	--	5
4-Chloroaniline	ND		ug/kg	920	--	5
Dibenzofuran	ND		ug/kg	920	--	5
2-Methylnaphthalene	ND		ug/kg	390	--	5
Acetophenone	ND		ug/kg	920	--	5
2,4,6-Trichlorophenol	ND		ug/kg	390	--	5
2-Chlorophenol	ND		ug/kg	390	--	5
2,4-Dichlorophenol	ND		ug/kg	390	--	5
2,4-Dimethylphenol	ND		ug/kg	390	--	5
2-Nitrophenol	ND		ug/kg	2000	--	5
4-Nitrophenol	ND		ug/kg	1300	--	5
2,4-Dinitrophenol	ND		ug/kg	4400	--	5
Pentachlorophenol	ND		ug/kg	1800	--	5
Phenol	ND		ug/kg	920	--	5
2-Methylphenol	ND		ug/kg	920	--	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1300	--	5
2,4,5-Trichlorophenol	ND		ug/kg	920	--	5
Pyridine	ND		ug/kg	1000	--	5
Biphenyl	ND		ug/kg	180	--	5

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02 D
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	83		30-130
2-Fluorobiphenyl	75		30-130
2,4,6-Tribromophenol	94		30-130
4-Terphenyl-d14	74		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03 D
Client ID: HA22-TP5_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 11:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/16/22 12:40
Analyst: WR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 08/10/22 21:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	1400	--	10
1,2,4-Trichlorobenzene	ND		ug/kg	1800	--	10
Hexachlorobenzene	ND		ug/kg	740	--	10
Bis(2-chloroethyl)ether	ND		ug/kg	740	--	10
2-Chloronaphthalene	ND		ug/kg	1800	--	10
1,2-Dichlorobenzene	ND		ug/kg	1800	--	10
1,3-Dichlorobenzene	ND		ug/kg	1800	--	10
1,4-Dichlorobenzene	ND		ug/kg	740	--	10
3,3'-Dichlorobenzidine	ND		ug/kg	1800	--	10
2,4-Dinitrotoluene	ND		ug/kg	740	--	10
2,6-Dinitrotoluene	ND		ug/kg	1800	--	10
Azobenzene	ND		ug/kg	1800	--	10
Fluoranthene	36000		ug/kg	1000	--	10
4-Bromophenyl phenyl ether	ND		ug/kg	1800	--	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	740	--	10
Bis(2-chloroethoxy)methane	ND		ug/kg	1900	--	10
Hexachlorobutadiene	ND		ug/kg	1800	--	10
Hexachloroethane	ND		ug/kg	740	--	10
Isophorone	ND		ug/kg	1600	--	10
Naphthalene	ND		ug/kg	1800	--	10
Nitrobenzene	ND		ug/kg	1600	--	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1800	--	10
Butyl benzyl phthalate	ND		ug/kg	1800	--	10
Di-n-butylphthalate	ND		ug/kg	1800	--	10
Di-n-octylphthalate	ND		ug/kg	1800	--	10
Diethyl phthalate	ND		ug/kg	1800	--	10
Dimethyl phthalate	ND		ug/kg	740	--	10
Benzo(a)anthracene	14000		ug/kg	1000	--	10

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03 D Date Collected: 07/28/22 11:15

Client ID: HA22-TP5_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	15000		ug/kg	1400	--	10
Benzo(b)fluoranthene	19000		ug/kg	1000	--	10
Benzo(k)fluoranthene	6600		ug/kg	1000	--	10
Chrysene	15000		ug/kg	1000	--	10
Acenaphthylene	ND		ug/kg	1400	--	10
Anthracene	3600		ug/kg	1000	--	10
Benzo(ghi)perylene	9800		ug/kg	1400	--	10
Fluorene	ND		ug/kg	1800	--	10
Phenanthrene	19000		ug/kg	1000	--	10
Dibenzo(a,h)anthracene	2000		ug/kg	740	--	10
Indeno(1,2,3-cd)pyrene	11000		ug/kg	1400	--	10
Pyrene	31000		ug/kg	1000	--	10
Aniline	ND		ug/kg	2100	--	10
4-Chloroaniline	ND		ug/kg	1800	--	10
Dibenzofuran	ND		ug/kg	1800	--	10
2-Methylnaphthalene	ND		ug/kg	740	--	10
Acetophenone	ND		ug/kg	1800	--	10
2,4,6-Trichlorophenol	ND		ug/kg	740	--	10
2-Chlorophenol	ND		ug/kg	740	--	10
2,4-Dichlorophenol	ND		ug/kg	740	--	10
2,4-Dimethylphenol	ND		ug/kg	740	--	10
2-Nitrophenol	ND		ug/kg	3800	--	10
4-Nitrophenol	ND		ug/kg	2500	--	10
2,4-Dinitrophenol	ND		ug/kg	8500	--	10
Pentachlorophenol	ND		ug/kg	3500	--	10
Phenol	ND		ug/kg	1800	--	10
2-Methylphenol	ND		ug/kg	1800	--	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2500	--	10
2,4,5-Trichlorophenol	ND		ug/kg	1800	--	10
Pyridine	ND		ug/kg	1900	--	10
Biphenyl	ND		ug/kg	350	--	10

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03 D Date Collected: 07/28/22 11:15

Client ID: HA22-TP5_0.0-5.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	57		30-130
Phenol-d6	62		30-130
Nitrobenzene-d5	66		30-130
2-Fluorobiphenyl	63		30-130
2,4,6-Tribromophenol	80		30-130
4-Terphenyl-d14	65		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04 D
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/16/22 13:04
Analyst: WR
Percent Solids: 92%

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/10/22 21:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	1500		ug/kg	1400	--	10
1,2,4-Trichlorobenzene	ND		ug/kg	1800	--	10
Hexachlorobenzene	ND		ug/kg	740	--	10
Bis(2-chloroethyl)ether	ND		ug/kg	740	--	10
2-Chloronaphthalene	ND		ug/kg	1800	--	10
1,2-Dichlorobenzene	ND		ug/kg	1800	--	10
1,3-Dichlorobenzene	ND		ug/kg	1800	--	10
1,4-Dichlorobenzene	ND		ug/kg	740	--	10
3,3'-Dichlorobenzidine	ND		ug/kg	1800	--	10
2,4-Dinitrotoluene	ND		ug/kg	740	--	10
2,6-Dinitrotoluene	ND		ug/kg	1800	--	10
Azobenzene	ND		ug/kg	1800	--	10
Fluoranthene	29000		ug/kg	1100	--	10
4-Bromophenyl phenyl ether	ND		ug/kg	1800	--	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	740	--	10
Bis(2-chloroethoxy)methane	ND		ug/kg	1900	--	10
Hexachlorobutadiene	ND		ug/kg	1800	--	10
Hexachloroethane	ND		ug/kg	740	--	10
Isophorone	ND		ug/kg	1600	--	10
Naphthalene	ND		ug/kg	1800	--	10
Nitrobenzene	ND		ug/kg	1600	--	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1800	--	10
Butyl benzyl phthalate	ND		ug/kg	1800	--	10
Di-n-butylphthalate	ND		ug/kg	1800	--	10
Di-n-octylphthalate	ND		ug/kg	1800	--	10
Diethyl phthalate	ND		ug/kg	1800	--	10
Dimethyl phthalate	ND		ug/kg	740	--	10
Benzo(a)anthracene	15000		ug/kg	1100	--	10

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04 D Date Collected: 07/28/22 12:15

Client ID: HA22-TP5_5.0-10.0 Date Received: 07/28/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	16000		ug/kg	1400	--	10
Benzo(b)fluoranthene	17000		ug/kg	1100	--	10
Benzo(k)fluoranthene	6500		ug/kg	1100	--	10
Chrysene	14000		ug/kg	1100	--	10
Acenaphthylene	ND		ug/kg	1400	--	10
Anthracene	3700		ug/kg	1100	--	10
Benzo(ghi)perylene	8700		ug/kg	1400	--	10
Fluorene	ND		ug/kg	1800	--	10
Phenanthrene	16000		ug/kg	1100	--	10
Dibenzo(a,h)anthracene	1900		ug/kg	740	--	10
Indeno(1,2,3-cd)pyrene	10000		ug/kg	1400	--	10
Pyrene	27000		ug/kg	1100	--	10
Aniline	ND		ug/kg	2100	--	10
4-Chloroaniline	ND		ug/kg	1800	--	10
Dibenzofuran	ND		ug/kg	1800	--	10
2-Methylnaphthalene	ND		ug/kg	740	--	10
Acetophenone	ND		ug/kg	1800	--	10
2,4,6-Trichlorophenol	ND		ug/kg	740	--	10
2-Chlorophenol	ND		ug/kg	740	--	10
2,4-Dichlorophenol	ND		ug/kg	740	--	10
2,4-Dimethylphenol	ND		ug/kg	740	--	10
2-Nitrophenol	ND		ug/kg	3800	--	10
4-Nitrophenol	ND		ug/kg	2500	--	10
2,4-Dinitrophenol	ND		ug/kg	8500	--	10
Pentachlorophenol	ND		ug/kg	3600	--	10
Phenol	ND		ug/kg	1800	--	10
2-Methylphenol	ND		ug/kg	1800	--	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2600	--	10
2,4,5-Trichlorophenol	ND		ug/kg	1800	--	10
Pyridine	ND		ug/kg	1900	--	10
Biphenyl	ND		ug/kg	360	--	10

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04 D
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		30-130
Phenol-d6	81		30-130
Nitrobenzene-d5	86		30-130
2-Fluorobiphenyl	78		30-130
2,4,6-Tribromophenol	98		30-130
4-Terphenyl-d14	76		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/12/22 13:06
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 08/10/22 00:54

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG1673280-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/12/22 13:06
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 08/10/22 00:54

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG1673280-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/12/22 13:06
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 08/10/22 00:54

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG1673280-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		30-130
Phenol-d6	56		30-130
Nitrobenzene-d5	41		30-130
2-Fluorobiphenyl	68		30-130
2,4,6-Tribromophenol	95		30-130
4-Terphenyl-d14	109		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG1673280-2 WG1673280-3								
Acenaphthene	98		105		40-140	7		30
1,2,4-Trichlorobenzene	98		102		40-140	4		30
Hexachlorobenzene	107		110		40-140	3		30
Bis(2-chloroethyl)ether	93		97		40-140	4		30
2-Chloronaphthalene	91		95		40-140	4		30
1,2-Dichlorobenzene	92		98		40-140	6		30
1,3-Dichlorobenzene	90		94		40-140	4		30
1,4-Dichlorobenzene	92		96		40-140	4		30
3,3'-Dichlorobenzidine	95		95		40-140	0		30
2,4-Dinitrotoluene	110		114		40-140	4		30
2,6-Dinitrotoluene	98		98		40-140	0		30
Azobenzene	99		103		40-140	4		30
Fluoranthene	110		110		40-140	0		30
4-Bromophenyl phenyl ether	105		107		40-140	2		30
Bis(2-chloroisopropyl)ether	86		90		40-140	5		30
Bis(2-chloroethoxy)methane	92		98		40-140	6		30
Hexachlorobutadiene	92		96		40-140	4		30
Hexachloroethane	92		98		40-140	6		30
Isophorone	88		92		40-140	4		30
Naphthalene	90		93		40-140	3		30
Nitrobenzene	90		96		40-140	6		30
Bis(2-ethylhexyl)phthalate	99		105		40-140	6		30
Butyl benzyl phthalate	102		108		40-140	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG1673280-2 WG1673280-3								
Di-n-butylphthalate	108		112		40-140	4		30
Di-n-octylphthalate	100		107		40-140	7		30
Diethyl phthalate	105		108		40-140	3		30
Dimethyl phthalate	93		96		40-140	3		30
Benzo(a)anthracene	110		111		40-140	1		30
Benzo(a)pyrene	115		110		40-140	4		30
Benzo(b)fluoranthene	114		108		40-140	5		30
Benzo(k)fluoranthene	120		118		40-140	2		30
Chrysene	112		112		40-140	0		30
Acenaphthylene	92		93		40-140	1		30
Anthracene	109		111		40-140	2		30
Benzo(ghi)perylene	114		111		40-140	3		30
Fluorene	105		108		40-140	3		30
Phenanthrene	108		109		40-140	1		30
Dibenzo(a,h)anthracene	116		112		40-140	4		30
Indeno(1,2,3-cd)pyrene	122		119		40-140	2		30
Pyrene	108		110		40-140	2		30
Aniline	84		88		40-140	5		30
4-Chloroaniline	56		54		40-140	4		30
Dibenzofuran	104		109		40-140	5		30
2-Methylnaphthalene	91		96		40-140	5		30
Acetophenone	93		96		40-140	3		30
2,4,6-Trichlorophenol	96		100		30-130	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2243206

Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG1673280-2 WG1673280-3								
2-Chlorophenol	100		103		30-130	3		30
2,4-Dichlorophenol	103		108		30-130	5		30
2,4-Dimethylphenol	93		100		30-130	7		30
2-Nitrophenol	102		108		30-130	6		30
4-Nitrophenol	108		113		30-130	5		30
2,4-Dinitrophenol	35		49		30-130	**33**	Q	30
Pentachlorophenol	82		93		30-130	13		30
Phenol	96		101		30-130	5		30
2-Methylphenol	97		102		30-130	5		30
3-Methylphenol/4-Methylphenol	98		102		30-130	4		30
2,4,5-Trichlorophenol	105		106		30-130	1		30
Pyridine	72		74		30-130	3		30
Biphenyl	90		94		40-140	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	109		112		30-130
Phenol-d6	108		111		30-130
Nitrobenzene-d5	100		106		30-130
2-Fluorobiphenyl	99		99		30-130
2,4,6-Tribromophenol	129		**135**	Q	30-130
4-Terphenyl-d14	116		118		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01 D
Client ID: HA22-TP4_0.0-5.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/16/22 09:11
Analyst: SR
Percent Solids: 88%

Date Collected: 07/28/22 08:00
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/10/22 23:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	950000		ug/kg	73000	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	77		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243206
Project Number: 134206-007
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02 D
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/16/22 08:46
Analyst: SR
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/10/22 23:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	1000000		ug/kg	177000	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243206
Project Number: 134206-007
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03 D
Client ID: HA22-TP5_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 11:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/16/22 08:21
Analyst: SR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 08/10/22 23:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	1240000		ug/kg	179000	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	69		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/11/22 15:10
Analyst: JB
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 08/10/22 23:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	471000		ug/kg	34100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	64		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/11/22 12:51
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 08/10/22 23:26

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-04 Batch: WG1673836-1					
TPH (C10-C36)	ND		ug/kg	32200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	78		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2243206

Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-04 Batch: WG1673836-2								
TPH (C10-C36)	92		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	69				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01
Client ID: HA22-TP4_0.0-5.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/11/22 21:23
Analyst: JM
Percent Solids: 88%

Date Collected: 07/28/22 08:00
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/10/22 22:28
Cleanup Method: EPA 3665A
Cleanup Date: 08/11/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/11/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.5	--	1	A
Aroclor 1221	ND		ug/kg	37.5	--	1	A
Aroclor 1232	ND		ug/kg	37.5	--	1	A
Aroclor 1242	ND		ug/kg	37.5	--	1	A
Aroclor 1248	ND		ug/kg	37.5	--	1	A
Aroclor 1254	ND		ug/kg	37.5	--	1	A
Aroclor 1260	ND		ug/kg	37.5	--	1	B
Aroclor 1262	ND		ug/kg	37.5	--	1	A
Aroclor 1268	ND		ug/kg	37.5	--	1	A
PCBs, Total	ND		ug/kg	37.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	68		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	62		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/11/22 21:15
Analyst: JM
Percent Solids: 90%

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/10/22 22:28
Cleanup Method: EPA 3665A
Cleanup Date: 08/11/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/11/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.9	--	1	A
Aroclor 1221	ND		ug/kg	35.9	--	1	A
Aroclor 1232	ND		ug/kg	35.9	--	1	A
Aroclor 1242	ND		ug/kg	35.9	--	1	A
Aroclor 1248	ND		ug/kg	35.9	--	1	A
Aroclor 1254	ND		ug/kg	35.9	--	1	A
Aroclor 1260	ND		ug/kg	35.9	--	1	B
Aroclor 1262	ND		ug/kg	35.9	--	1	A
Aroclor 1268	ND		ug/kg	35.9	--	1	A
PCBs, Total	ND		ug/kg	35.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	69		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	67		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03
Client ID: HA22-TP5_0.0-5.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/11/22 21:07
Analyst: JM
Percent Solids: 93%

Date Collected: 07/28/22 11:15
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/10/22 22:28
Cleanup Method: EPA 3665A
Cleanup Date: 08/11/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/11/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.9	--	1	A
Aroclor 1221	ND		ug/kg	35.9	--	1	A
Aroclor 1232	ND		ug/kg	35.9	--	1	A
Aroclor 1242	ND		ug/kg	35.9	--	1	A
Aroclor 1248	ND		ug/kg	35.9	--	1	A
Aroclor 1254	ND		ug/kg	35.9	--	1	A
Aroclor 1260	ND		ug/kg	35.9	--	1	B
Aroclor 1262	ND		ug/kg	35.9	--	1	A
Aroclor 1268	ND		ug/kg	35.9	--	1	A
PCBs, Total	ND		ug/kg	35.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	68		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	62		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/11/22 20:59
Analyst: JM
Percent Solids: 92%

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/10/22 22:28
Cleanup Method: EPA 3665A
Cleanup Date: 08/11/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/11/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.8	--	1	A
Aroclor 1221	ND		ug/kg	35.8	--	1	A
Aroclor 1232	ND		ug/kg	35.8	--	1	A
Aroclor 1242	ND		ug/kg	35.8	--	1	A
Aroclor 1248	ND		ug/kg	35.8	--	1	A
Aroclor 1254	ND		ug/kg	35.8	--	1	A
Aroclor 1260	ND		ug/kg	35.8	--	1	A
Aroclor 1262	ND		ug/kg	35.8	--	1	A
Aroclor 1268	ND		ug/kg	35.8	--	1	A
PCBs, Total	ND		ug/kg	35.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	86		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	75		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/10/22 15:24
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 08/10/22 00:11
Cleanup Method: EPA 3665A
Cleanup Date: 08/10/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/10/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-04 Batch: WG1673267-1						
Aroclor 1016	ND		ug/kg	31.9	--	A
Aroclor 1221	ND		ug/kg	31.9	--	A
Aroclor 1232	ND		ug/kg	31.9	--	A
Aroclor 1242	ND		ug/kg	31.9	--	A
Aroclor 1248	ND		ug/kg	31.9	--	A
Aroclor 1254	ND		ug/kg	31.9	--	A
Aroclor 1260	ND		ug/kg	31.9	--	A
Aroclor 1262	ND		ug/kg	31.9	--	A
Aroclor 1268	ND		ug/kg	31.9	--	A
PCBs, Total	ND		ug/kg	31.9	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	84		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2243206

Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-04 Batch: WG1673267-2 WG1673267-3									
Aroclor 1016	74		72		40-140	3		30	A
Aroclor 1260	67		70		40-140	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		76		30-150	B
Decachlorobiphenyl	70		72		30-150	B
2,4,5,6-Tetrachloro-m-xylene	80		75		30-150	A
Decachlorobiphenyl	75		78		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243206
Project Number: 134206-007
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01
Client ID: HA22-TP4_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 08:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.16	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Arsenic, Total	8.01		mg/kg	0.432	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Barium, Total	94.6		mg/kg	0.432	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Beryllium, Total	0.297		mg/kg	0.216	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Cadmium, Total	1.34		mg/kg	0.432	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Chromium, Total	9.49		mg/kg	0.432	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Lead, Total	218		mg/kg	2.16	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Mercury, Total	0.782		mg/kg	0.084	--	1	08/12/22 00:18	08/12/22 14:52	EPA 7471B	97,7471B	DMB
Nickel, Total	10.2		mg/kg	1.08	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Selenium, Total	ND		mg/kg	2.16	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Silver, Total	ND		mg/kg	0.432	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Thallium, Total	ND		mg/kg	2.16	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Vanadium, Total	270		mg/kg	0.432	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF
Zinc, Total	634		mg/kg	2.16	--	1	08/11/22 23:05	08/16/22 13:50	EPA 3050B	97,6010D	JF

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243206
Project Number: 134206-007
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.10	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Arsenic, Total	3.20		mg/kg	0.420	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Barium, Total	69.0		mg/kg	0.420	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Beryllium, Total	0.259		mg/kg	0.210	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Cadmium, Total	ND		mg/kg	0.420	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Chromium, Total	7.62		mg/kg	0.420	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Lead, Total	146		mg/kg	2.10	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Mercury, Total	0.198		mg/kg	0.078	--	1	08/12/22 00:18	08/12/22 14:56	EPA 7471B	97,7471B	DMB
Nickel, Total	8.22		mg/kg	1.05	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Selenium, Total	ND		mg/kg	2.10	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Silver, Total	ND		mg/kg	0.420	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Thallium, Total	ND		mg/kg	2.10	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Vanadium, Total	128		mg/kg	0.420	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF
Zinc, Total	97.8		mg/kg	2.10	--	1	08/11/22 23:05	08/16/22 13:54	EPA 3050B	97,6010D	JF

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243206
Project Number: 134206-007
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03
Client ID: HA22-TP5_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 11:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.13	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Arsenic, Total	5.32		mg/kg	0.426	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Barium, Total	70.0		mg/kg	0.426	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Beryllium, Total	0.257		mg/kg	0.213	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Cadmium, Total	ND		mg/kg	0.426	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Chromium, Total	7.63		mg/kg	0.426	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Lead, Total	262		mg/kg	2.13	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Mercury, Total	0.211		mg/kg	0.082	--	1	08/12/22 00:18	08/12/22 14:59	EPA 7471B	97,7471B	DMB
Nickel, Total	7.53		mg/kg	1.06	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Selenium, Total	ND		mg/kg	2.13	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Silver, Total	ND		mg/kg	0.426	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Thallium, Total	ND		mg/kg	2.13	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Vanadium, Total	15.0		mg/kg	0.426	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF
Zinc, Total	162		mg/kg	2.13	--	1	08/11/22 23:05	08/16/22 13:57	EPA 3050B	97,6010D	JF

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243206
Project Number: 134206-007
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.05	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Arsenic, Total	4.33		mg/kg	0.411	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Barium, Total	56.9		mg/kg	0.411	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Beryllium, Total	0.217		mg/kg	0.205	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Cadmium, Total	0.670		mg/kg	0.411	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Chromium, Total	9.98		mg/kg	0.411	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Lead, Total	224		mg/kg	2.05	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Mercury, Total	0.247		mg/kg	0.079	--	1	08/12/22 00:18	08/12/22 15:02	EPA 7471B	97,7471B	DMB
Nickel, Total	8.09		mg/kg	1.03	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Selenium, Total	ND		mg/kg	2.05	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Silver, Total	ND		mg/kg	0.411	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Thallium, Total	ND		mg/kg	2.05	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Vanadium, Total	13.7		mg/kg	0.411	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF
Zinc, Total	422		mg/kg	2.05	--	1	08/11/22 23:05	08/16/22 14:01	EPA 3050B	97,6010D	JF

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243206

Project Number: 134206-007 **Report Date:** 08/16/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-04 Batch: WG1674098-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Arsenic, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Barium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Beryllium, Total	ND		mg/kg	0.200	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Cadmium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Chromium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Lead, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Nickel, Total	ND		mg/kg	1.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Selenium, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Silver, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Thallium, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Vanadium, Total	ND		mg/kg	0.400	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF
Zinc, Total	ND		mg/kg	2.00	--	1	08/11/22 23:05	08/16/22 12:44	97,6010D	JF

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-04 Batch: WG1674103-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/12/22 00:18	08/12/22 13:53	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2243206

Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1674098-2 WG1674098-3 SRM Lot Number: D113-540								
Antimony, Total	126		116		20-250	8		30
Arsenic, Total	96		96		70-130	0		30
Barium, Total	93		92		75-125	1		30
Beryllium, Total	99		99		75-125	0		30
Cadmium, Total	93		87		75-125	7		30
Chromium, Total	95		88		70-130	8		30
Lead, Total	92		91		72-128	1		30
Nickel, Total	94		90		70-130	4		30
Selenium, Total	96		96		66-134	0		30
Silver, Total	97		88		70-131	10		30
Thallium, Total	92		91		70-130	1		30
Vanadium, Total	95		89		74-126	7		30
Zinc, Total	93		88		70-130	6		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1674103-2 WG1674103-3 SRM Lot Number: D113-540								
Mercury, Total	91		97		60-140	6		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

SAMPLE RESULTS

Lab ID:	L2243206-01	Date Collected:	07/28/22 08:00
Client ID:	HA22-TP4_0.0-5.0	Date Received:	07/28/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/11/22 15:49	1,1030	MD

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

SAMPLE RESULTS

Lab ID:	L2243206-02	Date Collected:	07/28/22 09:10
Client ID:	HA22-TP4_5.0-11.0	Date Received:	07/28/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/11/22 15:49	1,1030	MD

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

SAMPLE RESULTS

Lab ID:	L2243206-03	Date Collected:	07/28/22 11:15
Client ID:	HA22-TP5_0.0-5.0	Date Received:	07/28/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/11/22 15:49	1,1030	MD

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

SAMPLE RESULTS

Lab ID:	L2243206-04	Date Collected:	07/28/22 12:15
Client ID:	HA22-TP5_5.0-10.0	Date Received:	07/28/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/11/22 15:49	1,1030	MD

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-01
Client ID: HA22-TP4_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 08:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	220		umhos/cm	10	--	1	-	08/12/22 11:49	1,9050A	KS
Solids, Total	88.4		%	0.100	NA	1	-	08/11/22 09:04	121,2540G	RI
pH (H)	8.6		SU	-	NA	1	-	08/12/22 08:47	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/11/22 09:35	08/11/22 12:09	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/11/22 09:35	08/11/22 11:32	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-02
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	170		umhos/cm	10	--	1	-	08/12/22 11:49	1,9050A	KS
Solids, Total	90.3		%	0.100	NA	1	-	08/11/22 09:04	121,2540G	RI
pH (H)	8.9		SU	-	NA	1	-	08/12/22 08:47	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/11/22 09:35	08/11/22 12:11	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/11/22 09:35	08/11/22 11:34	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-03
Client ID: HA22-TP5_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 11:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	220		umhos/cm	10	--	1	-	08/12/22 12:36	1,9050A	KS
Solids, Total	92.5		%	0.100	NA	1	-	08/11/22 09:04	121,2540G	RI
pH (H)	8.8		SU	-	NA	1	-	08/12/22 10:10	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/11/22 09:35	08/11/22 12:11	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/11/22 09:35	08/11/22 11:35	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

SAMPLE RESULTS

Lab ID: L2243206-04
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	210		umhos/cm	10	--	1	-	08/12/22 12:36	1,9050A	KS
Solids, Total	92.0		%	0.100	NA	1	-	08/11/22 09:04	121,2540G	RI
pH (H)	8.8		SU	-	NA	1	-	08/12/22 10:10	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/11/22 09:35	08/11/22 12:12	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/11/22 09:35	08/11/22 11:35	125,7.3	MJ

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243206
Report Date: 08/16/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG1673584-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/11/22 09:35	08/11/22 11:21	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG1673995-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/11/22 09:35	08/11/22 12:01	125,7.3	MJ

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG1673584-2								
Sulfide, Reactive	104		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG1673995-2								
Cyanide, Reactive	76		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1674465-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1674471-1								
Specific Conductance	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 03-04 Batch: WG1674473-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 03-04 Batch: WG1674475-1								
Specific Conductance	99		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2243206

Report Date: 08/16/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1673584-3 QC Sample: L2243206-01 Client ID: HA22-TP4_0.0-5.0						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1673995-3 QC Sample: L2243206-01 Client ID: HA22-TP4_0.0-5.0						
Cyanide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 03-04 QC Batch ID: WG1674473-2 QC Sample: L2243206-03 Client ID: HA22-TP5_0.0-5.0						
pH (H)	8.8	8.8	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 03-04 QC Batch ID: WG1674475-2 QC Sample: L2243206-03 Client ID: HA22-TP5_0.0-5.0						
Specific Conductance @ 25 C	220	210	umhos/cm	5		20

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243206-01A	Vial MeOH preserved	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-01B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2243206-01C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2243206-01D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2243206-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2243206-01F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-01G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		4.0	Y	Absent		HEXCR-RELOG()
L2243206-01H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243206-01I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243206-02A	Vial MeOH preserved	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-02B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2243206-02C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2243206-02D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243206-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2243206-02F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-02G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		4.0	Y	Absent		HEXCR-RELOG()
L2243206-02H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243206-02I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243206-03A	Vial MeOH preserved	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-03B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2243206-03C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2243206-03D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2243206-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2243206-03F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-03G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		4.0	Y	Absent		HEXCR-RELOG()
L2243206-03H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243206-03I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243206-04A	Vial MeOH preserved	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-04B	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)

*Values in parentheses indicate holding time in days

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243206
Report Date: 08/16/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243206-04C	Vial water preserved	A	NA		4.0	Y	Absent	28-JUL-22 19:39	MCP-8260HLW-21(14)
L2243206-04D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2243206-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2243206-04F	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		MCP-8260HLW-21(14)
L2243206-04G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		4.0	Y	Absent		HEXCR-RELOG()
L2243206-04H	Glass 250ml/8oz unpreserved	A	NA		4.0	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243206-04I	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),HOLD-WETCHEM(),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243206
Project Number:	134206-007	**Report Date:**	08/16/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2243206

8/10 PW

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 7/28/22

ALPHA Job #: ~~L2240510~~

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard — Due Date:
☐ Rush (only if pre approved) — # of Days:

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total # Bottles
~~40510-01~~	HA22-B2_5.0-7.0	7/28/2022	0730	Soil F	MJD	5-7	x	x	x	x	x	x	x	x		8
L2243206-01 ~~02~~	* HA22-TP4_0.0-5.0	7/28/2022	0800	Soil F	JDB	0-5	X	X	X	X	X	X	X	X	~~* HOLD~~	9
02 ~~03~~	* HA22-TP4_5.0-11.0	7/28/2022	0910	Soil F	JDB	5-11	X	X	X	X	X	X	X	X	~~* HOLD~~	9
03 ~~04~~	* HA22-TP5_0.0-5.0	7/28/2022	1115	Soil F	JDB	0-5	X	X	X	X	X	X	X	X	~~* HOLD~~	9
04 ~~05~~	* HA22-TP5_5.0-10.0	7/28/2022	1215	Soil F	JDB	5-10	X	X	X	X	X	X	X	X	~~* HOLD~~	9
~~06~~	HA22-B2_39.0-41.0	7/28/2022	1300	Soil N	MJD	39-41	X	X	X	X	X	X	X	X		8

52 TOTAL

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/28/2022 1522	[signature] AAL	7/28/22 1522
[signature] AAL	7/28/22 1611	[signature] 7/28/22	7/28/22 1611 PW

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2243206
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1674332-5	**Lab File ID**	: V26220811A05
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 08/11/22 11:02

Client Sample No.	Lab Sample ID	Analysis Date
WG1674332-3LCS	WG1674332-3	08/11/22 09:07
WG1674332-4LCSD	WG1674332-4	08/11/22 09:45
HA22-TP4_0.0-5.0	L2243206-01	08/11/22 12:58
HA22-TP4_5.0-11.0	L2243206-02	08/11/22 13:37
HA22-TP5_0.0-5.0	L2243206-03	08/11/22 14:15
HA22-TP5_5.0-10.0	L2243206-04	08/11/22 14:54

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243206
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA126	Calibration Date	: 08/11/22 08:28
Lab File ID	: V26220811A01	Init. Calib. Date(s)	: 07/13/22 07/14/22
Sample No	: WG1674332-2	Init. Calib. Times	: 21:35 02:43
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	126	-.01
Dichlorodifluoromethane	0.23	0.117	-	49.1*	20	64	0
Chlorodifluoromethane	0.199	0.352	-	-76.9*	20	235	.01
Chloromethane	0.24	0.191	-	20.4*	20	104	0
Vinyl chloride	0.306	0.232	-	24.2*	20	93	0
Bromomethane	0.174	0.166	-	4.6	20	127	0
Chloroethane	0.144	0.153	-	-6.3	20	133	0
Trichlorofluoromethane	0.354	0.345	-	2.5	20	122	0
Ethyl ether	0.099	0.108	-	-9.1	20	136	0
1,1-Dichloroethene	0.195	0.203	-	-4.1	20	130	0
Carbon disulfide	0.637	0.586	-	8	20	121	0
Freon-113	0.216	0.214	-	0.9	20	123	0
Iodomethane	40	39.257	-	1.9	20	133	0
Acrolein	0.023	0.023	-	0	20	135	0
Allyl chloride	0.124	0.173	-	-39.5*	20	182	0
Methylene chloride	40	43.377	-	-8.4	20	141	0
Acetone	40	46.174	-	-15.4	20	144	0
trans-1,2-Dichloroethene	0.229	0.251	-	-9.6	20	137	0
Methyl acetate	0.095	0.102	-	-7.4	20	145	0
Hexane	0.329	0.499	-	-51.7*	20	205	-.01
Methyl tert-butyl ether	0.541	0.576	-	-6.5	20	133	0
tert-Butyl alcohol	0.017	0.017	-	0	20	135	0
Diisopropyl ether	0.652	0.777	-	-19.2	20	143	0
1,1-Dichloroethane	0.408	0.463	-	-13.5	20	140	0
Halothane	0.175	0.192	-	-9.7	20	136	-.01
Acrylonitrile	40	42.771	-	-6.9	20	141	0
Ethyl tert-butyl ether	0.664	0.758	-	-14.2	20	139	0
Vinyl acetate	0.329	0.369	-	-12.2	20	141	-.01
cis-1,2-Dichloroethene	0.252	0.283	-	-12.3	20	139	0
2,2-Dichloropropane	0.354	0.396	-	-11.9	20	138	0
Bromochloromethane	0.107	0.123	-	-15	20	142	0
Cyclohexane	0.371	0.377	-	-1.6	20	125	0
Chloroform	0.43	0.487	-	-13.3	20	139	-.01
Ethyl acetate	0.133	0.142	-	-6.8	20	136	-.01
Carbon tetrachloride	0.337	0.347	-	-3	20	126	-.01
Tetrahydrofuran	40	40.106	-	-0.3	20	133	0
Dibromofluoromethane	0.261	0.251	-	3.8	20	124	-.01
1,1,1-Trichloroethane	0.365	0.386	-	-5.8	20	130	-.01
2-Butanone	0.066	0.069	-	-4.5	20	144	-.01
1,1-Dichloropropene	0.308	0.329	-	-6.8	20	131	0
Heptane	0.217	0.314	-	-44.7*	20	187	0
Benzene	0.919	1.034	-	-12.5	20	135	0
tert-Amyl methyl ether	0.583	0.648	-	-11.1	20	135	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243206
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA126	Calibration Date	: 08/11/22 08:28
Lab File ID	: V26220811A01	Init. Calib. Date(s)	: 07/13/22 07/14/22
Sample No	: WG1674332-2	Init. Calib. Times	: 21:35 02:43
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloroethane-d4	0.263	0.244	-	7.2	20	122	0
1,2-Dichloroethane	0.302	0.326	-	-7.9	20	135	0
Methyl cyclohexane	0.4	0.413	-	-3.2	20	127	-.01
Trichloroethene	0.238	0.264	-	-10.9	20	135	-.01
Dibromomethane	0.128	0.14	-	-9.4	20	138	0
1,2-Dichloropropane	0.227	0.27	-	-18.9	20	143	-.01
2-Chloroethyl vinyl ether	0.094	0.104	-	-10.6	20	140	0
Bromodichloromethane	0.311	0.362	-	-16.4	20	138	0
Methyl methacrylate	0.111	0.13	-	-17.1	20	154	-.02
1,4-Dioxane	0.00148	0.00156*	-	-5.4	20	136	0
cis-1,3-Dichloropropene	0.353	0.419	-	-18.7	20	144	-.01
Chlorobenzene-d5	1	1	-	0	20	137	0
Octane	0.318	0.414	-	-30.2*	20	180	-.01
Toluene-d8	1.39	1.315	-	5.4	20	128	0
Toluene	0.816	0.839	-	-2.8	20	134	0
4-Methyl-2-pentanone	0.08	0.083	-	-3.8	20	136	0
Tetrachloroethene	0.326	0.334	-	-2.5	20	136	0
2-Nitropropane	0.055	0.051	-	7.3	20	138	-.01
trans-1,3-Dichloropropene	0.435	0.468	-	-7.6	20	140	-.01
Methyl isothiocyanate	0.121	0.147	-	-21.5*	20	169	0
Ethyl methacrylate	0.35	0.347	-	0.9	20	133	-.01
1,1,2-Trichloroethane	0.201	0.212	-	-5.5	20	140	-.01
Chlorodibromomethane	0.281	0.3	-	-6.8	20	137	0
1,3-Dichloropropane	0.412	0.435	-	-5.6	20	141	0
1,2-Dibromoethane	0.223	0.236	-	-5.8	20	139	0
n-Butyl Acetate	0.348	0.376	-	-8	20	155	0
2-Hexanone	0.143	0.144	-	-0.7	20	134	-.01
Nonane	0.526	0.714	-	-35.7*	20	185	0
Chlorobenzene	0.88	0.929	-	-5.6	20	139	0
Ethylbenzene	1.528	1.579	-	-3.3	20	131	-.01
1,1,1,2-Tetrachloroethane	0.312	0.337	-	-8	20	138	-.01
p/m Xylene	0.6	0.617	-	-2.8	20	129	-.01
o Xylene	0.576	0.601	-	-4.3	20	131	0
Styrene	80	76.638	-	4.2	20	130	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	139	0
Bromoform	40	33.412	-	16.5	20	133	-.01
Isopropylbenzene	3.027	2.919	-	3.6	20	128	0
4-Bromofluorobenzene	0.917	0.887	-	3.3	20	137	0
Bromobenzene	0.703	0.717	-	-2	20	138	0
Decane	1.24	1.603	-	-29.3*	20	175	0
n-Propylbenzene	3.594	3.532	-	1.7	20	128	0
1,4-Dichlorobutane	0.774	0.78	-	-0.8	20	139	0
1,1,2,2-Tetrachloroethane	0.557	0.54	-	3.1	20	135	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243206
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA126	Calibration Date	: 08/11/22 08:28
Lab File ID	: V26220811A01	Init. Calib. Date(s)	: 07/13/22 07/14/22
Sample No	: WG1674332-2	Init. Calib. Times	: 21:35 02:43
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
4-Ethyltoluene	2.937	2.912	-	0.9	20	129	0
2-Chlorotoluene	2.429	2.357	-	3	20	129	0
1,3,5-Trimethylbenzene	2.556	2.518	-	1.5	20	129	-.01
1,2,3-Trichloropropane	0.41	0.395	-	3.7	20	136	0
trans-1,4-Dichloro-2-buten	0.198	0.186	-	6.1	20	130	-.01
4-Chlorotoluene	2.161	2.181	-	-0.9	20	132	0
tert-Butylbenzene	2.154	2.131	-	1.1	20	131	0
1,2,4-Trimethylbenzene	2.483	2.504	-	-0.8	20	133	0
Limonene	0.883	1.031	-	-16.8	20	160	0
sec-Butylbenzene	3.256	3.256	-	0	20	130	0
p-Isopropyltoluene	2.773	2.821	-	-1.7	20	132	0
1,3-Dichlorobenzene	1.382	1.425	-	-3.1	20	138	0
1,4-Dichlorobenzene	1.36	1.416	-	-4.1	20	141	0
trans-Decahydronaphthalene	0.791	0.926	-	-17.1	20	169	0
Undecane	1.214	1.641	-	-35.2*	20	168	0
p-Diethylbenzene	1.724	1.75	-	-1.5	20	132	0
n-Butylbenzene	3.193	3.204	-	-0.3	20	131	0
Hexachloroethane	0.491	0.556	-	-13.2	20	162	0
1,2-Dichlorobenzene	1.253	1.295	-	-3.4	20	140	0
cis-Decahydronaphthalene	0.576	0.705	-	-22.4*	20	174	0
1,2,4,5-Tetramethylbenzene	2.393	2.583	-	-7.9	20	138	0
1,2-Dibromo-3-chloropropan	0.078	0.077	-	1.3	20	138	0
1,3,5-Trichlorobenzene	0.897	0.995	-	-10.9	20	149	0
Nitrobenzene	40	40.958	-	-2.4	20	171	0
Hexachlorobutadiene	0.393	0.466	-	-18.6	20	161	0
1,2,4-Trichlorobenzene	0.745	0.827	-	-11	20	151	0
Naphthalene	1.461	1.485	-	-1.6	20	137	0
1,2,3-Trichlorobenzene	0.601	0.674	-	-12.1	20	148	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2243595
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/22/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2243595-01	HA22-B1_79.0-81.0	SOIL	BOSTON, MA	08/12/22 08:00	08/12/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2243595-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromochloromethane (0.0896), trichloroethene (0.1863), bromodichloromethane (0.2758), 1,4-dioxane (0.0011), 1,1,2-trichloroethane (0.1918)

Average Response Factor: 1,4-dioxane,

Verification: dichlorodifluoromethane (64%)

L2243595-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

WG1675567-2 and WG1675567-3: The initial calibration utilized a quadratic fit for 2,4-Dinitrophenol.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 08/22/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1675567-3	Pentachlorophenol	LCSD	31	30	01	non-directional bias

ORGANICS

VOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01
Client ID: HA22-B1_79.0-81.0
Sample Location: BOSTON, MA

Date Collected: 08/12/22 08:00
Date Received: 08/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 08/16/22 13:33
Analyst: AJK
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	7.4	--	1
1,1-Dichloroethane	ND		ug/kg	1.5	--	1
Chloroform	ND		ug/kg	2.2	--	1
Carbon tetrachloride	ND		ug/kg	1.5	--	1
1,2-Dichloropropane	ND		ug/kg	1.5	--	1
Dibromochloromethane	ND		ug/kg	1.5	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.5	--	1
Tetrachloroethene	ND		ug/kg	0.74	--	1
Chlorobenzene	ND		ug/kg	0.74	--	1
Trichlorofluoromethane	ND		ug/kg	6.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.5	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.74	--	1
Bromodichloromethane	ND		ug/kg	0.74	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.5	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.74	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.74	--	1
1,1-Dichloropropene	ND		ug/kg	0.74	--	1
Bromoform	ND		ug/kg	6.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.74	--	1
Benzene	ND		ug/kg	0.74	--	1
Toluene	ND		ug/kg	1.5	--	1
Ethylbenzene	ND		ug/kg	1.5	--	1
Chloromethane	ND		ug/kg	6.0	--	1
Bromomethane	ND		ug/kg	3.0	--	1
Vinyl chloride	ND		ug/kg	1.5	--	1
Chloroethane	ND		ug/kg	3.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.5	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.2	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01 Date Collected: 08/12/22 08:00

Client ID: HA22-B1_79.0-81.0 Date Received: 08/12/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.74	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.0	--	1
Methyl tert butyl ether	ND		ug/kg	3.0	--	1
p/m-Xylene	ND		ug/kg	3.0	--	1
o-Xylene	ND		ug/kg	1.5	--	1
Xylenes, Total	ND		ug/kg	1.5	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.5	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.5	--	1
Dibromomethane	ND		ug/kg	3.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.0	--	1
Styrene	ND		ug/kg	1.5	--	1
Dichlorodifluoromethane	ND		ug/kg	15	--	1
Acetone	ND		ug/kg	37	--	1
Carbon disulfide	ND		ug/kg	15	--	1
Methyl ethyl ketone	ND		ug/kg	15	--	1
Methyl isobutyl ketone	ND		ug/kg	15	--	1
2-Hexanone	ND		ug/kg	15	--	1
Bromochloromethane	ND		ug/kg	3.0	--	1
Tetrahydrofuran	ND		ug/kg	6.0	--	1
2,2-Dichloropropane	ND		ug/kg	3.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.5	--	1
1,3-Dichloropropane	ND		ug/kg	3.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.74	--	1
Bromobenzene	ND		ug/kg	3.0	--	1
n-Butylbenzene	ND		ug/kg	1.5	--	1
sec-Butylbenzene	ND		ug/kg	1.5	--	1
tert-Butylbenzene	ND		ug/kg	3.0	--	1
o-Chlorotoluene	ND		ug/kg	3.0	--	1
p-Chlorotoluene	ND		ug/kg	3.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.5	--	1
Hexachlorobutadiene	ND		ug/kg	6.0	--	1
Isopropylbenzene	ND		ug/kg	1.5	--	1
p-Isopropyltoluene	ND		ug/kg	1.5	--	1
Naphthalene	ND		ug/kg	6.0	--	1
n-Propylbenzene	ND		ug/kg	1.5	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01 Date Collected: 08/12/22 08:00

Client ID: HA22-B1_79.0-81.0 Date Received: 08/12/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	3.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.0	--	1
Diethyl ether	ND		ug/kg	3.0	--	1
Diisopropyl Ether	ND		ug/kg	3.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.0	--	1
1,4-Dioxane	ND		ug/kg	120	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	100		70-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/16/22 10:58
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1676024-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/16/22 10:58
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1676024-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 08/16/22 10:58
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1676024-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1676024-3 WG1676024-4								
Methylene chloride	99		100		70-130	1		20
1,1-Dichloroethane	108		109		70-130	1		20
Chloroform	106		107		70-130	1		20
Carbon tetrachloride	111		110		70-130	1		20
1,2-Dichloropropane	104		104		70-130	0		20
Dibromochloromethane	106		106		70-130	0		20
1,1,2-Trichloroethane	101		101		70-130	0		20
Tetrachloroethene	116		116		70-130	0		20
Chlorobenzene	107		108		70-130	1		20
Trichlorofluoromethane	122		116		70-130	5		20
1,2-Dichloroethane	101		100		70-130	1		20
1,1,1-Trichloroethane	113		113		70-130	0		20
Bromodichloromethane	106		106		70-130	0		20
trans-1,3-Dichloropropene	105		106		70-130	1		20
cis-1,3-Dichloropropene	106		107		70-130	1		20
1,1-Dichloropropene	114		115		70-130	1		20
Bromoform	101		101		70-130	0		20
1,1,2,2-Tetrachloroethane	97		98		70-130	1		20
Benzene	107		108		70-130	1		20
Toluene	108		108		70-130	0		20
Ethylbenzene	108		108		70-130	0		20
Chloromethane	114		117		70-130	3		20
Bromomethane	116		120		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1676024-3 WG1676024-4								
Vinyl chloride	114		114		70-130	0		20
Chloroethane	116		116		70-130	0		20
1,1-Dichloroethene	116		116		70-130	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	112		113		70-130	1		20
1,2-Dichlorobenzene	104		106		70-130	2		20
1,3-Dichlorobenzene	106		107		70-130	1		20
1,4-Dichlorobenzene	105		106		70-130	1		20
Methyl tert butyl ether	103		104		70-130	1		20
p/m-Xylene	113		113		70-130	0		20
o-Xylene	112		112		70-130	0		20
cis-1,2-Dichloroethene	105		106		70-130	1		20
Dibromomethane	102		102		70-130	0		20
1,2,3-Trichloropropane	95		95		70-130	0		20
Styrene	113		113		70-130	0		20
Dichlorodifluoromethane	103		104		70-130	1		20
Acetone	91		89		70-130	2		20
Carbon disulfide	106		106		70-130	0		20
Methyl ethyl ketone	92		92		70-130	0		20
Methyl isobutyl ketone	103		104		70-130	1		20
2-Hexanone	94		94		70-130	0		20
Bromochloromethane	108		109		70-130	1		20
Tetrahydrofuran	98		98		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1676024-3 WG1676024-4								
2,2-Dichloropropane	115		115		70-130	0		20
1,2-Dibromoethane	105		106		70-130	1		20
1,3-Dichloropropane	102		103		70-130	1		20
1,1,1,2-Tetrachloroethane	108		109		70-130	1		20
Bromobenzene	103		105		70-130	2		20
n-Butylbenzene	110		112		70-130	2		20
sec-Butylbenzene	110		112		70-130	2		20
tert-Butylbenzene	108		110		70-130	2		20
o-Chlorotoluene	105		106		70-130	1		20
p-Chlorotoluene	106		108		70-130	2		20
1,2-Dibromo-3-chloropropane	96		95		70-130	1		20
Hexachlorobutadiene	106		111		70-130	5		20
Isopropylbenzene	106		108		70-130	2		20
p-Isopropyltoluene	110		112		70-130	2		20
Naphthalene	98		100		70-130	2		20
n-Propylbenzene	106		108		70-130	2		20
1,2,3-Trichlorobenzene	99		102		70-130	3		20
1,2,4-Trichlorobenzene	102		105		70-130	3		20
1,3,5-Trimethylbenzene	108		110		70-130	2		20
1,2,4-Trimethylbenzene	108		109		70-130	1		20
Diethyl ether	108		109		70-130	1		20
Diisopropyl Ether	108		108		70-130	0		20
Ethyl-Tert-Butyl-Ether	107		108		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1676024-3 WG1676024-4								
Tertiary-Amyl Methyl Ether	105		106		70-130	1		20
1,4-Dioxane	105		105		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		95		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	97		98		70-130
Dibromofluoromethane	100		101		70-130

SEMIVOLATILES

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01
Client ID: HA22-B1_79.0-81.0
Sample Location: BOSTON, MA

Date Collected: 08/12/22 08:00
Date Received: 08/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 08/18/22 15:14
Analyst: JG
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 08/16/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	180	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	220	--	1
Hexachlorobenzene	ND		ug/kg	92	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	92	--	1
2-Chloronaphthalene	ND		ug/kg	220	--	1
1,2-Dichlorobenzene	ND		ug/kg	220	--	1
1,3-Dichlorobenzene	ND		ug/kg	220	--	1
1,4-Dichlorobenzene	ND		ug/kg	92	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	220	--	1
2,4-Dinitrotoluene	ND		ug/kg	92	--	1
2,6-Dinitrotoluene	ND		ug/kg	220	--	1
Azobenzene	ND		ug/kg	220	--	1
Fluoranthene	ND		ug/kg	130	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	220	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	92	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	240	--	1
Hexachlorobutadiene	ND		ug/kg	220	--	1
Hexachloroethane	ND		ug/kg	92	--	1
Isophorone	ND		ug/kg	200	--	1
Naphthalene	ND		ug/kg	220	--	1
Nitrobenzene	ND		ug/kg	200	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	220	--	1
Butyl benzyl phthalate	ND		ug/kg	220	--	1
Di-n-butylphthalate	ND		ug/kg	220	--	1
Di-n-octylphthalate	ND		ug/kg	220	--	1
Diethyl phthalate	ND		ug/kg	220	--	1
Dimethyl phthalate	ND		ug/kg	92	--	1
Benzo(a)anthracene	ND		ug/kg	130	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01 Date Collected: 08/12/22 08:00

Client ID: HA22-B1_79.0-81.0 Date Received: 08/12/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	180	--	1
Benzo(b)fluoranthene	ND		ug/kg	130	--	1
Benzo(k)fluoranthene	ND		ug/kg	130	--	1
Chrysene	ND		ug/kg	130	--	1
Acenaphthylene	ND		ug/kg	180	--	1
Anthracene	ND		ug/kg	130	--	1
Benzo(ghi)perylene	ND		ug/kg	180	--	1
Fluorene	ND		ug/kg	220	--	1
Phenanthrene	ND		ug/kg	130	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	92	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	180	--	1
Pyrene	ND		ug/kg	130	--	1
Aniline	ND		ug/kg	260	--	1
4-Chloroaniline	ND		ug/kg	220	--	1
Dibenzofuran	ND		ug/kg	220	--	1
2-Methylnaphthalene	ND		ug/kg	92	--	1
Acetophenone	ND		ug/kg	220	--	1
2,4,6-Trichlorophenol	ND		ug/kg	92	--	1
2-Chlorophenol	ND		ug/kg	92	--	1
2,4-Dichlorophenol	ND		ug/kg	92	--	1
2,4-Dimethylphenol	ND		ug/kg	92	--	1
2-Nitrophenol	ND		ug/kg	470	--	1
4-Nitrophenol	ND		ug/kg	310	--	1
2,4-Dinitrophenol	ND		ug/kg	1000	--	1
Pentachlorophenol	ND		ug/kg	440	--	1
Phenol	ND		ug/kg	220	--	1
2-Methylphenol	ND		ug/kg	220	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	320	--	1
2,4,5-Trichlorophenol	ND		ug/kg	220	--	1
Pyridine	ND		ug/kg	240	--	1
Biphenyl	ND		ug/kg	44	--	1

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01 Date Collected: 08/12/22 08:00

Client ID: HA22-B1_79.0-81.0 Date Received: 08/12/22

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	79		30-130
2-Fluorobiphenyl	73		30-130
2,4,6-Tribromophenol	101		30-130
4-Terphenyl-d14	76		30-130

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/17/22 21:14
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/16/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1675567-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/17/22 21:14
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/16/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1675567-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/17/22 21:14
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/16/22 02:18

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1675567-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		30-130
Phenol-d6	77		30-130
Nitrobenzene-d5	80		30-130
2-Fluorobiphenyl	67		30-130
2,4,6-Tribromophenol	63		30-130
4-Terphenyl-d14	64		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1675567-2 WG1675567-3								
Acenaphthene	58		74		40-140	24		30
1,2,4-Trichlorobenzene	65		78		40-140	18		30
Hexachlorobenzene	60		78		40-140	26		30
Bis(2-chloroethyl)ether	67		79		40-140	16		30
2-Chloronaphthalene	61		76		40-140	22		30
1,2-Dichlorobenzene	67		78		40-140	15		30
1,3-Dichlorobenzene	65		75		40-140	14		30
1,4-Dichlorobenzene	65		76		40-140	16		30
3,3'-Dichlorobenzidine	48		62		40-140	25		30
2,4-Dinitrotoluene	72		93		40-140	25		30
2,6-Dinitrotoluene	70		87		40-140	22		30
Azobenzene	63		81		40-140	25		30
Fluoranthene	60		76		40-140	24		30
4-Bromophenyl phenyl ether	56		73		40-140	26		30
Bis(2-chloroisopropyl)ether	68		81		40-140	17		30
Bis(2-chloroethoxy)methane	69		85		40-140	21		30
Hexachlorobutadiene	54		64		40-140	17		30
Hexachloroethane	69		78		40-140	12		30
Isophorone	67		81		40-140	19		30
Naphthalene	63		76		40-140	19		30
Nitrobenzene	78		92		40-140	16		30
Bis(2-ethylhexyl)phthalate	72		92		40-140	24		30
Butyl benzyl phthalate	71		93		40-140	27		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1675567-2 WG1675567-3								
Di-n-butylphthalate	68		86		40-140	23		30
Di-n-octylphthalate	73		93		40-140	24		30
Diethyl phthalate	61		79		40-140	26		30
Dimethyl phthalate	61		78		40-140	24		30
Benzo(a)anthracene	58		75		40-140	26		30
Benzo(a)pyrene	63		82		40-140	26		30
Benzo(b)fluoranthene	63		80		40-140	24		30
Benzo(k)fluoranthene	64		84		40-140	27		30
Chrysene	59		75		40-140	24		30
Acenaphthylene	65		81		40-140	22		30
Anthracene	62		79		40-140	24		30
Benzo(ghi)perylene	65		84		40-140	26		30
Fluorene	61		77		40-140	23		30
Phenanthrene	61		77		40-140	23		30
Dibenzo(a,h)anthracene	64		83		40-140	26		30
Indeno(1,2,3-cd)pyrene	70		90		40-140	25		30
Pyrene	60		77		40-140	25		30
Aniline	49		57		40-140	15		30
4-Chloroaniline	45		56		40-140	22		30
Dibenzofuran	60		76		40-140	24		30
2-Methylnaphthalene	65		80		40-140	21		30
Acetophenone	66		78		40-140	17		30
2,4,6-Trichlorophenol	61		78		30-130	24		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1675567-2 WG1675567-3								
2-Chlorophenol	73		87		30-130	18		30
2,4-Dichlorophenol	73		90		30-130	21		30
2,4-Dimethylphenol	69		86		30-130	22		30
2-Nitrophenol	90		108		30-130	18		30
4-Nitrophenol	72		93		30-130	25		30
2,4-Dinitrophenol	39		49		30-130	23		30
Pentachlorophenol	50		68		30-130	**31**	Q	30
Phenol	69		82		30-130	17		30
2-Methylphenol	73		90		30-130	21		30
3-Methylphenol/4-Methylphenol	73		90		30-130	21		30
2,4,5-Trichlorophenol	65		81		30-130	22		30
Pyridine	48		58		30-130	19		30
Biphenyl	60		74		40-140	21		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	77		89		30-130
Phenol-d6	76		89		30-130
Nitrobenzene-d5	87		99		30-130
2-Fluorobiphenyl	63		76		30-130
2,4,6-Tribromophenol	73		94		30-130
4-Terphenyl-d14	64		81		30-130

PETROLEUM HYDROCARBONS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243595
Project Number: 134206-007
Report Date: 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01
Client ID: HA22-B1_79.0-81.0
Sample Location: BOSTON, MA

Date Collected: 08/12/22 08:00
Date Received: 08/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 08/16/22 20:29
Analyst: MC
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 08/16/22 02:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	43000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	80		40-140

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/16/22 10:26
Analyst: AL

Extraction Method: EPA 3546
Extraction Date: 08/15/22 21:52

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1675528-1					
TPH (C10-C36)	ND		ug/kg	32400	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2243595

Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1675528-2								
TPH (C10-C36)	82		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	81				40-140

PCBS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243595
Report Date: 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01
Client ID: HA22-B1_79.0-81.0
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 08/16/22 10:14
Analyst: JM
Percent Solids: 74%

Date Collected: 08/12/22 08:00
Date Received: 08/12/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/16/22 02:49
Cleanup Method: EPA 3665A
Cleanup Date: 08/16/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/16/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	42.5	--	1	A
Aroclor 1221	ND		ug/kg	42.5	--	1	A
Aroclor 1232	ND		ug/kg	42.5	--	1	A
Aroclor 1242	ND		ug/kg	42.5	--	1	A
Aroclor 1248	ND		ug/kg	42.5	--	1	A
Aroclor 1254	ND		ug/kg	42.5	--	1	A
Aroclor 1260	ND		ug/kg	42.5	--	1	A
Aroclor 1262	ND		ug/kg	42.5	--	1	A
Aroclor 1268	ND		ug/kg	42.5	--	1	A
PCBs, Total	ND		ug/kg	42.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	49		30-150	B
Decachlorobiphenyl	47		30-150	B
2,4,5,6-Tetrachloro-m-xylene	51		30-150	A
Decachlorobiphenyl	50		30-150	A

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 08/16/22 08:50
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 08/15/22 22:12
Cleanup Method: EPA 3665A
Cleanup Date: 08/16/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/16/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1675532-1						
Aroclor 1016	ND		ug/kg	32.0	--	A
Aroclor 1221	ND		ug/kg	32.0	--	A
Aroclor 1232	ND		ug/kg	32.0	--	A
Aroclor 1242	ND		ug/kg	32.0	--	A
Aroclor 1248	ND		ug/kg	32.0	--	A
Aroclor 1254	ND		ug/kg	32.0	--	A
Aroclor 1260	ND		ug/kg	32.0	--	A
Aroclor 1262	ND		ug/kg	32.0	--	A
Aroclor 1268	ND		ug/kg	32.0	--	A
PCBs, Total	ND		ug/kg	32.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	76		30-150	B
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	87		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1675532-2 WG1675532-3									
Aroclor 1016	94		96		40-140	2		30	A
Aroclor 1260	78		78		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		86		30-150	B
Decachlorobiphenyl	74		74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		85		30-150	A
Decachlorobiphenyl	76		78		30-150	A

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2243595
Project Number: 134206-007
Report Date: 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01
Client ID: HA22-B1_79.0-81.0
Sample Location: BOSTON, MA

Date Collected: 08/12/22 08:00
Date Received: 08/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.58	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Arsenic, Total	10.0		mg/kg	0.516	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Barium, Total	68.8		mg/kg	0.516	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Beryllium, Total	0.666		mg/kg	0.258	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Cadmium, Total	0.795		mg/kg	0.516	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Chromium, Total	33.0		mg/kg	0.516	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Lead, Total	7.00		mg/kg	2.58	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.109	--	1	08/16/22 12:20	08/18/22 13:31	EPA 7471B	97,7471B	ZK
Nickel, Total	21.2		mg/kg	1.29	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.58	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.516	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.58	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Vanadium, Total	44.5		mg/kg	0.516	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC
Zinc, Total	53.7		mg/kg	2.58	--	1	08/16/22 09:30	08/18/22 19:40	EPA 3050B	97,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2243595

Project Number: 134206-007 **Report Date:** 08/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1675073-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	08/16/22 09:30	08/18/22 18:02	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1675075-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/16/22 12:20	08/18/22 12:29	97,7471B	ZK

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1675073-2 WG1675073-3 SRM Lot Number: D113-540								
Antimony, Total	132		129		20-250	2		30
Arsenic, Total	79		78		70-130	1		30
Barium, Total	75		76		75-125	1		30
Beryllium, Total	85		88		75-125	3		30
Cadmium, Total	81		80		75-125	1		30
Chromium, Total	76		77		70-130	1		30
Lead, Total	77		75		72-128	3		30
Nickel, Total	76		74		70-130	3		30
Selenium, Total	78		77		66-134	1		30
Silver, Total	75		73		70-131	3		30
Thallium, Total	79		77		70-130	3		30
Vanadium, Total	75		75		74-126	0		30
Zinc, Total	76		72		70-130	5		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1675075-2 WG1675075-3 SRM Lot Number: D113-540								
Mercury, Total	89		92		60-140	3		30

INORGANICS
&
MISCELLANEOUS

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

SAMPLE RESULTS

Lab ID:	L2243595-01	Date Collected:	08/12/22 08:00
Client ID:	HA22-B1_79.0-81.0	Date Received:	08/12/22
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Clay
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/16/22 15:34	1,1030	MD

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

SAMPLE RESULTS

Lab ID: L2243595-01
Client ID: HA22-B1_79.0-81.0
Sample Location: BOSTON, MA

Date Collected: 08/12/22 08:00
Date Received: 08/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	740		umhos/cm	10	--	1	-	08/16/22 13:53	1,9050A	KS
Solids, Total	74.3		%	0.100	NA	1	-	08/13/22 13:28	121,2540G	RI
pH (H)	8.3		SU	-	NA	1	-	08/16/22 12:12	1,9045D	KS
Cyanide, Reactive	ND		mg/kg	130	--	1	08/17/22 14:00	08/17/22 15:28	125,7.3	MJ
Sulfide, Reactive	ND		mg/kg	250	--	1	08/15/22 18:10	08/15/22 21:39	125,7.3	RM

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007
Lab Number: L2243595
Report Date: 08/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1675496-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/15/22 18:10	08/15/22 21:35	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1675499-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/17/22 14:00	08/17/22 15:22	125,7.3	MJ

Lab Control Sample Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1675496-2								
Sulfide, Reactive	107		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1675499-2								
Cyanide, Reactive	49		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1675719-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1675725-1								
Specific Conductance	100		-		99-101	-		

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2243595
Report Date: 08/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243595-01A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2243595-01B	Vial water preserved	A	NA		2.6	Y	Absent	12-AUG-22 22:33	MCP-8260HLW-21(14)
L2243595-01C	Vial water preserved	A	NA		2.6	Y	Absent	12-AUG-22 22:33	MCP-8260HLW-21(14)
L2243595-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2243595-01E	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2243595-01F	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2243595-01G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2243595-01H	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),TS(7),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2243595
Project Number:	134206-007	**Report Date:**	08/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 8/12/22

ALPHA Job #: L2243595

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project #: 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total # Bottles
43595 -01	HA22-B1_79.0-81.0	8/12/2022	0800	SO/N	MJD	79-81	x	x	x	x	x	x	x	x		8

8 TOTAL

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	A ✓	A	A	A	A	A	A	A
Preservative	F A	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/12/2022 1030	[signature] Alum+AL	8/12/22 1030
[signature]	8/12/22 1745	Lylie Morse	8/12/22 1745

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2243595
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Lab Sample ID	: WG1676024-5	**Lab File ID**	: V00220816A05
Instrument ID	: VOA100		
Matrix	: SOIL	**Analysis Date**	: 08/16/22 10:58

Client Sample No.	Lab Sample ID	Analysis Date
WG1676024-3LCS	WG1676024-3	08/16/22 09:40
WG1676024-4LCSD	WG1676024-4	08/16/22 10:06
HA22-B1_79.0-81.0	L2243595-01	08/16/22 13:33

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243595
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA100	Calibration Date	: 08/16/22 09:14
Lab File ID	: V00220816A01	Init. Calib. Date(s)	: 08/02/22 08/03/22
Sample No	: WG1676024-2	Init. Calib. Times	: 21:09 00:39
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	109	0
Dichlorodifluoromethane	0.198	0.216	-	-9.1	20	125	0
Chloromethane	0.196	0.234	-	-19.4	20	125	0
Vinyl chloride	0.209	0.251	-	-20.1*	20	127	0
Bromomethane	0.135	0.168	-	-24.4*	20	146	0
Chloroethane	0.136	0.165	-	-21.3*	20	125	0
Trichlorofluoromethane	0.3	0.393	-	-31*	20	149	0
Ethyl ether	0.112	0.125	-	-11.6	20	119	0
1,1-Dichloroethene	0.182	0.226	-	-24.2*	20	131	0
Carbon disulfide	0.574	0.651	-	-13.4	20	127	0
Freon-113	0.201	0.26	-	-29.4*	20	141	0
Acrolein	0.025	0.026	-	-4	20	113	0
Methylene chloride	40	41.7	-	-4.3	20	113	0
Acetone	40	34.726	-	13.2	20	92	0
trans-1,2-Dichloroethene	0.223	0.262	-	-17.5	20	127	0
Methyl acetate	0.158	0.156	-	1.3	20	112	-.01
Methyl tert-butyl ether	0.611	0.649	-	-6.2	20	115	0
tert-Butyl alcohol	0.02	0.019	-	5	20	106	0
Diisopropyl ether	0.816	0.914	-	-12	20	119	0
1,1-Dichloroethane	0.387	0.444	-	-14.7	20	121	0
Halothane	0.173	0.206	-	-19.1	20	127	0
Acrylonitrile	0.062	0.064	-	-3.2	20	110	0
Ethyl tert-butyl ether	0.695	0.774	-	-11.4	20	118	0
Vinyl acetate	0.581	0.627	-	-7.9	20	116	0
cis-1,2-Dichloroethene	0.256	0.288	-	-12.5	20	121	0
2,2-Dichloropropane	0.316	0.393	-	-24.4*	20	133	0
Bromochloromethane	0.112	0.13	-	-16.1	20	122	0
Cyclohexane	0.346	0.438	-	-26.6*	20	135	0
Chloroform	0.44	0.494	-	-12.3	20	120	0
Ethyl acetate	0.24	0.242	-	-0.8	20	111	-.01
Carbon tetrachloride	0.304	0.361	-	-18.8	20	129	0
Tetrahydrofuran	0.074	0.07	-	5.4	20	106	-.02
Dibromofluoromethane	0.252	0.256	-	-1.6	20	112	0
1,1,1-Trichloroethane	0.327	0.395	-	-20.8*	20	125	0
2-Butanone	0.114	0.101	-	11.4	20	101	-.01
1,1-Dichloropropene	0.28	0.341	-	-21.8*	20	126	0
Benzene	0.893	1.02	-	-14.2	20	120	0
tert-Amyl methyl ether	0.657	0.718	-	-9.3	20	116	0
1,2-Dichloroethane-d4	0.268	0.26	-	3	20	106	0
1,2-Dichloroethane	0.311	0.324	-	-4.2	20	114	0
Methyl cyclohexane	0.384	0.471	-	-22.7*	20	131	0
Trichloroethene	0.235	0.275	-	-17	20	123	0
Dibromomethane	0.145	0.153	-	-5.5	20	113	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2243595
Project Name	: MATTHEWS ARENA-NORTHEASTERN	Project Number	: 134206-007
Instrument ID	: VOA100	Calibration Date	: 08/16/22 09:14
Lab File ID	: V00220816A01	Init. Calib. Date(s)	: 08/02/22 08/03/22
Sample No	: WG1676024-2	Init. Calib. Times	: 21:09 00:39
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.233	0.252	-	-8.2	20	117	0
2-Chloroethyl vinyl ether	0.122	0.125	-	-2.5	20	106	0
Bromodichloromethane	0.332	0.367	-	-10.5	20	116	0
1,4-Dioxane	0.00162	0.0017*	-	-4.9	20	108	0
cis-1,3-Dichloropropene	0.375	0.417	-	-11.2	20	115	0
Chlorobenzene-d5	1	1	-	0	20	107	0
Toluene-d8	1.255	1.258	-	-0.2	20	107	0
Toluene	0.711	0.802	-	-12.8	20	118	0
4-Methyl-2-pentanone	0.089	0.093	-	-4.5	20	105	-.01
Tetrachloroethene	0.285	0.349	-	-22.5*	20	124	0
trans-1,3-Dichloropropene	0.422	0.461	-	-9.2	20	114	0
Ethyl methacrylate	0.355	0.378	-	-6.5	20	108	0
1,1,2-Trichloroethane	0.213	0.224	-	-5.2	20	111	0
Chlorodibromomethane	0.295	0.327	-	-10.8	20	114	0
1,3-Dichloropropane	0.425	0.448	-	-5.4	20	110	0
1,2-Dibromoethane	0.245	0.267	-	-9	20	112	0
2-Hexanone	0.205	0.195	-	4.9	20	99	-.01
Chlorobenzene	0.796	0.893	-	-12.2	20	115	0
Ethylbenzene	1.346	1.533	-	-13.9	20	117	0
1,1,1,2-Tetrachloroethane	0.285	0.32	-	-12.3	20	115	0
p/m Xylene	0.504	0.601	-	-19.2	20	120	0
o Xylene	0.493	0.583	-	-18.3	20	118	0
Styrene	0.842	1.005	-	-19.4	20	117	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	109	0
Bromoform	0.365	0.383	-	-4.9	20	112	0
Isopropylbenzene	2.526	2.872	-	-13.7	20	120	0
4-Bromofluorobenzene	0.877	0.857	-	2.3	20	107	0
Bromobenzene	0.63	0.68	-	-7.9	20	116	0
n-Propylbenzene	2.996	3.391	-	-13.2	20	120	0
1,4-Dichlorobutane	0.816	0.835	-	-2.3	20	111	0
1,1,2,2-Tetrachloroethane	0.605	0.617	-	-2	20	109	0
4-Ethyltoluene	2.459	2.851	-	-15.9	20	122	0
2-Chlorotoluene	1.773	1.969	-	-11.1	20	118	0
1,3,5-Trimethylbenzene	2.091	2.4	-	-14.8	20	121	0
1,2,3-Trichloropropane	0.488	0.474	-	2.9	20	109	0
trans-1,4-Dichloro-2-buten	0.19	0.209	-	-10	20	118	0
4-Chlorotoluene	1.814	2.052	-	-13.1	20	120	0
tert-Butylbenzene	1.784	2.066	-	-15.8	20	122	0
1,2,4-Trimethylbenzene	2.074	2.369	-	-14.2	20	120	0
sec-Butylbenzene	2.721	3.181	-	-16.9	20	122	0
p-Isopropyltoluene	2.287	2.696	-	-17.9	20	123	0
1,3-Dichlorobenzene	1.229	1.375	-	-11.9	20	120	0
1,4-Dichlorobenzene	1.248	1.378	-	-10.4	20	119	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2243595
Project Name	: MATTHEWS ARENA-NORTHEASTERN	**Project Number**	: 134206-007
Instrument ID	: VOA100	**Calibration Date**	: 08/16/22 09:14
Lab File ID	: V00220816A01	**Init. Calib. Date(s)**	: 08/02/22 08/03/22
Sample No	: WG1676024-2	**Init. Calib. Times**	: 21:09 00:39
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.363	1.616	-	-18.6	20	124	0
n-Butylbenzene	2.074	2.425	-	-16.9	20	123	0
1,2-Dichlorobenzene	1.163	1.265	-	-8.8	20	116	0
1,2,4,5-Tetramethylbenzene	2.036	2.291	-	-12.5	20	119	0
1,2-Dibromo-3-chloropropan	0.097	0.093	-	4.1	20	104	0
1,3,5-Trichlorobenzene	0.857	0.975	-	-13.8	20	122	0
Hexachlorobutadiene	0.393	0.448	-	-14	20	121	0
1,2,4-Trichlorobenzene	0.79	0.855	-	-8.2	20	117	0
Naphthalene	1.827	1.819	-	0.4	20	107	0
1,2,3-Trichlorobenzene	0.749	0.769	-	-2.7	20	112	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2244217
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/30/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2244217
Report Date: 08/30/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2244217-01	HA22-TP3_0.0-5.0	SOIL	BOSTON, MA	07/29/22 07:35	07/29/22
L2244217-02	HA22-TP3_5.0-10.0	SOIL	BOSTON, MA	07/29/22 09:00	07/29/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244217
Project Number:	134206-007	**Report Date:**	08/30/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244217
Project Number:	134206-007	**Report Date:**	08/30/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244217
Project Number:	134206-007	**Report Date:**	08/30/22

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 08/30/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2244217
Report Date: 08/30/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2244217
Project Number: 134206-007
Report Date: 08/30/22

SAMPLE RESULTS

Lab ID: L2244217-01
Client ID: HA22-TP3_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 07:35
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/21/22 07:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	8.49		mg/l	0.500	--	1	08/24/22 14:30	08/24/22 17:36	EPA 3015	1,6010D	MC

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2244217
Project Number: 134206-007
Report Date: 08/30/22

SAMPLE RESULTS

Lab ID: L2244217-02
Client ID: HA22-TP3_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/29/22 09:00
Date Received: 07/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/21/22 07:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	08/23/22 17:27	08/30/22 15:17	EPA 3015	1,6010D	NB

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2244217

Project Number: 134206-007 **Report Date:** 08/30/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 02 Batch: WG1678721-1										
Lead, TCLP	ND		mg/l	0.500	--	1	08/23/22 17:27	08/30/22 15:07	1,6010D	NB

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 08/19/22 19:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1679180-1										
Lead, TCLP	ND		mg/l	0.500	--	1	08/24/22 14:30	08/24/22 17:22	1,6010D	MC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 08/20/22 08:00

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2244217

Report Date: 08/30/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02 Batch: WG1678721-2								
Lead, TCLP	96		-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1679180-2								
Lead, TCLP	92		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2244217
Report Date: 08/30/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02 QC Batch ID: WG1678721-3 QC Sample: L2244217-02 Client ID: HA22-TP3_5.0-10.0												
Lead, TCLP	ND	5.3	5.79	109		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2244217

Report Date: 08/30/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02 QC Batch ID: WG1678721-4 QC Sample: L2244217-02 Client ID: HA22-TP3_5.0-10.0						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2244217
Report Date: 08/30/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2244217-01H	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		-
L2244217-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.7	Y	Absent		PB-CI(180)
L2244217-01X9	Tumble Vessel	A	NA		2.7	Y	Absent		-
L2244217-02I	Glass 500ml/16oz unpreserved	A	NA		2.7	Y	Absent		-
L2244217-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.7	Y	Absent		PB-CI(180)
L2244217-02X9	Tumble Vessel	A	NA		2.7	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244217
Project Number:	134206-007	**Report Date:**	08/30/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244217
Project Number:	134206-007	**Report Date:**	08/30/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244217
Project Number:	134206-007	**Report Date:**	08/30/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244217
Project Number:	134206-007	**Report Date:**	08/30/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 7/29/22

ALPHA Job # L2244217 L2240888 8/18/22

Project Information
Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project # 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time
☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables
☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)
MA RCS-1

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:
Note: Select State from menu & identify criteria.

H&A Information
H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	~~1. VOCs~~	~~2. SVOCs~~	~~3. MCP14 Metals~~	~~4. TPH~~	~~5. PCBs~~	~~6. Waste Char~~	~~7. Conductivity~~	~~See note~~ TCLP LEAD	Sample Specific Comments	Total Bottles
~~[illegible]~~ 01	*HA22-TP3_0.0-5.0	7/29/22	0735	Soil F	JDB	0-5	x	x	x	x	x	x	x	x	*HOLD	9
44217-02	*HA22-TP3_5.0-10.0	7/29/22	0900	Soil F	JDB	5-10	x	x	x	x	x	x	x	x	*HOLD	9

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A✓	A	A	A	A	A	A	A
Preservative	F/A	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/29/2022	[signature]	7/29
[signature]	7/29 1630	[signature]	7/29/22 1630
[signature]	7/29/22 1804	[signature]	7/29/22 1804

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

ANALYTICAL REPORT

Lab Number:	L2244219
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	MATTHEWS ARENA-NORTHEASTERN
Project Number:	134206-007
Report Date:	08/23/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2244219
Report Date: 08/23/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2244219-01	HA22-TP4_0.0-5.0	SOIL	BOSTON, MA	07/28/22 08:00	07/28/22
L2244219-02	HA22-TP4_5.0-11.0	SOIL	BOSTON, MA	07/28/22 09:10	07/28/22
L2244219-03	HA22-TP5_0.0-5.0	SOIL	BOSTON, MA	07/28/22 11:15	07/28/22
L2244219-04	HA22-TP5_5.0-10.0	SOIL	BOSTON, MA	07/28/22 12:15	07/28/22

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244219
Project Number:	134206-007	**Report Date:**	08/23/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244219
Project Number:	134206-007	**Report Date:**	08/23/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244219
Project Number:	134206-007	**Report Date:**	08/23/22

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative

Date: 08/23/22

QC OUTLIER SUMMARY REPORT

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2244219

Report Date: 08/23/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

METALS

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2244219
Project Number: 134206-007
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2244219-01
Client ID: HA22-TP4_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 08:00
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/18/22 05:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	08/20/22 01:11	08/23/22 00:01	EPA 3015	1,6010D	ZK

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2244219
Project Number: 134206-007
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2244219-02
Client ID: HA22-TP4_5.0-11.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 09:10
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/18/22 05:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	08/20/22 01:11	08/23/22 00:06	EPA 3015	1,6010D	ZK

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2244219
Project Number: 134206-007
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2244219-03
Client ID: HA22-TP5_0.0-5.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 11:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/18/22 05:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	08/20/22 01:11	08/23/22 00:10	EPA 3015	1,6010D	ZK

Project Name: MATTHEWS ARENA-NORTHEASTERN
Lab Number: L2244219
Project Number: 134206-007
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2244219-04
Client ID: HA22-TP5_5.0-10.0
Sample Location: BOSTON, MA

Date Collected: 07/28/22 12:15
Date Received: 07/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 08/18/22 05:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.855		mg/l	0.500	--	1	08/20/22 01:11	08/23/22 00:15	EPA 3015	1,6010D	ZK

Project Name: MATTHEWS ARENA-NORTHEASTERN **Lab Number:** L2244219

Project Number: 134206-007 **Report Date:** 08/23/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-04 Batch: WG1677129-1										
Lead, TCLP	ND		mg/l	0.500	--	1	08/20/22 01:11	08/22/22 21:50	1,6010D	ZK

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 08/17/22 18:42

Lab Control Sample Analysis

Batch Quality Control

Project Name: MATTHEWS ARENA-NORTHEASTERN

Project Number: 134206-007

Lab Number: L2244219

Report Date: 08/23/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-04 Batch: WG1677129-2								
Lead, TCLP	93		-		75-125	-		20

Project Name: MATTHEWS ARENA-NORTHEASTERN
Project Number: 134206-007

Lab Number: L2244219
Report Date: 08/23/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2244219-01A	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		-
L2244219-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.0	Y	Absent		PB-CI(180)
L2244219-01X9	Tumble Vessel	A	NA		4.0	Y	Absent		-
L2244219-02A	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		-
L2244219-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.0	Y	Absent		PB-CI(180)
L2244219-02X9	Tumble Vessel	A	NA		4.0	Y	Absent		-
L2244219-03A	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		-
L2244219-03X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.0	Y	Absent		PB-CI(180)
L2244219-03X9	Tumble Vessel	A	NA		4.0	Y	Absent		-
L2244219-04A	Glass 500ml/16oz unpreserved	A	NA		4.0	Y	Absent		-
L2244219-04X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.0	Y	Absent		PB-CI(180)
L2244219-04X9	Tumble Vessel	A	NA		4.0	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244219
Project Number:	134206-007	**Report Date:**	08/23/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244219
Project Number:	134206-007	**Report Date:**	08/23/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244219
Project Number:	134206-007	**Report Date:**	08/23/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MATTHEWS ARENA-NORTHEASTERN	**Lab Number:**	L2244219
Project Number:	134206-007	**Report Date:**	08/23/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2244219

8/16 PW

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 7/28/22

ALPHA Job # ~~L2240510~~

Project Information

Project Name: Matthews Arena - Northeastern University
Project Location: Boston, MA
Project # 134206-007
(Use Project name as Project #) ☐
Project Manager: Kaitlyn Tripp
ALPHAQuote #:

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre approved) # of Days:

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

H&A Information

H&A Client: NEU
H&A Address: 465 Medford St, Suite 2200
Boston, MA 02129
H&A Phone: 617.886.7358
H&A Fax:
H&A Email: kscalise, kingraham

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Note: run TCLP if total metals is greater than or equal to 20x RCRA, run Hex Cr if total Cr is equal to or greater than 100 ppm

* TCLP-Lead

Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note	Sample Specific Comments	Total Bottles
~~40510-01~~	HA22-B2_5.0-7.0	7/28/2022	0730	Soil F	MJD	5-7	x	x	x	x	x	x	x	x		8
44219-01 02	* HA22-TP4_0.0-5.0	7/28/2022	0800	Soil F	JDB	0-5	X	X	X	X	X	X	X	X	~~* HOLD~~	9
02 03	* HA22-TP4_5.0-11.0	7/28/2022	0910	Soil F	JDB	5-11	X	X	X	X	X	X	X	X	~~* HOLD~~	9
03 04	* HA22-TP5_0.0-5.0	7/28/2022	1115	Soil F	JDB	0-5	X	X	X	X	X	X	X	X	~~* HOLD~~	9
04 05	* HA22-TP5_5.0-10.0	7/28/2022	1215	Soil F	JDB	5-10	X	X	X	X	X	X	X	X	~~* HOLD~~	9
06	HA22-B2_39.0-41.0	7/28/2022	1300	Soil N	MJD	39-41	X	X	X	X	X	X	X	X		8

52 TOTAL

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

	1. VOCs	2. SVOCs	3. MCP14 Metals	4. TPH	5. PCBs	6. Waste Char	7. Conductivity	See note
Container Type	AV	A	A	A	A	A	A	A
Preservative	FA	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/28/2022 1522	[signature] AAL	7/28/22 1522
[signature] AAL	7/28/22 1611	[signature] 7/28/22	1611

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Rev 3 (1/7/2019)

ANALYTICAL REPORT

Lab Number:	L2375037
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	12/27/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2375037-01	HA23-TP12_0-4.1	SOIL	BOSTON, MA	12/19/23 10:15	12/19/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2375037-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0016), cis-1,3-dichloropropene (0.2875)

Average Response Factor: 1,4-dioxane

Verification: ethyl ether (137%), tetrahydrofuran (137%)

L2375037-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Total Metals

In reference to question H:

The WG1867191-3 LCSD recovery, associated with L2375037-01, is outside the acceptance criteria for barium (82%). Re-analysis of the LCSD yielded an unacceptable recovery for barium (82%). The LCS recovery is acceptable; therefore, no further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 12/27/23

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1868494-3	Trichlorofluoromethane	LCS	68	70-130	01	potential low bias
8260D	Batch QC	WG1868494-3	Bromomethane	LCS	67	70-130	01	potential low bias
8260D	Batch QC	WG1868494-3	Dichlorodifluoromethane	LCS	63	70-130	01	potential low bias
8260D	Batch QC	WG1868494-4	Trichlorofluoromethane	LCSD	69	70-130	01	potential low bias
8260D	Batch QC	WG1868494-4	Bromomethane	LCSD	66	70-130	01	potential low bias
8260D	Batch QC	WG1868494-4	Dichlorodifluoromethane	LCSD	64	70-130	01	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1866830-3	4-Chloroaniline	LCSD	40	30	01	non-directional bias
MCP Total Metals - Mansfield Lab								
6010D	Batch QC	WG1867191-3	Barium, Total	LCSD	82	83-117	01	potential low bias

ORGANICS

VOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01
Client ID: HA23-TP12_0-4.1
Sample Location: BOSTON, MA

Date Collected: 12/19/23 10:15
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/26/23 15:48
Analyst: LAC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01 Date Collected: 12/19/23 10:15

Client ID: HA23-TP12_0-4.1 Date Received: 12/19/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.50	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	63		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01 Date Collected: 12/19/23 10:15

Client ID: HA23-TP12_0-4.1 Date Received: 12/19/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	99		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/26/23 10:13
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1868494-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/26/23 10:13
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1868494-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/26/23 10:13
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1868494-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868494-3 WG1868494-4								
Methylene chloride	74		76		70-130	3		20
1,1-Dichloroethane	92		93		70-130	1		20
Chloroform	86		86		70-130	0		20
Carbon tetrachloride	78		78		70-130	0		20
1,2-Dichloropropane	94		95		70-130	1		20
Dibromochloromethane	93		93		70-130	0		20
1,1,2-Trichloroethane	92		92		70-130	0		20
Tetrachloroethene	87		87		70-130	0		20
Chlorobenzene	93		94		70-130	1		20
Trichlorofluoromethane	**68**	Q	**69**	Q	70-130	1		20
1,2-Dichloroethane	82		83		70-130	1		20
1,1,1-Trichloroethane	82		82		70-130	0		20
Bromodichloromethane	90		91		70-130	1		20
trans-1,3-Dichloropropene	96		97		70-130	1		20
cis-1,3-Dichloropropene	99		100		70-130	1		20
1,1-Dichloropropene	87		87		70-130	0		20
Bromoform	90		89		70-130	1		20
1,1,2,2-Tetrachloroethane	91		90		70-130	1		20
Benzene	96		96		70-130	0		20
Toluene	93		94		70-130	1		20
Ethylbenzene	94		94		70-130	0		20
Chloromethane	96		97		70-130	1		20
Bromomethane	**67**	Q	**66**	Q	70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868494-3 WG1868494-4								
Vinyl chloride	80		81		70-130	1		20
Chloroethane	75		75		70-130	0		20
1,1-Dichloroethene	83		85		70-130	2		20
trans-1,2-Dichloroethene	93		93		70-130	0		20
Trichloroethene	94		93		70-130	1		20
1,2-Dichlorobenzene	89		89		70-130	0		20
1,3-Dichlorobenzene	90		90		70-130	0		20
1,4-Dichlorobenzene	88		88		70-130	0		20
Methyl tert butyl ether	91		92		70-130	1		20
p/m-Xylene	96		96		70-130	0		20
o-Xylene	92		92		70-130	0		20
cis-1,2-Dichloroethene	87		90		70-130	3		20
Dibromomethane	85		86		70-130	1		20
1,2,3-Trichloropropane	85		83		70-130	2		20
Styrene	92		92		70-130	0		20
Dichlorodifluoromethane	**63**	Q	**64**	Q	70-130	2		20
Acetone	86		84		70-130	2		20
Carbon disulfide	95		95		70-130	0		20
Methyl ethyl ketone	92		91		70-130	1		20
Methyl isobutyl ketone	94		93		70-130	1		20
2-Hexanone	93		92		70-130	1		20
Bromochloromethane	86		86		70-130	0		20
Tetrahydrofuran	110		110		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868494-3 WG1868494-4								
2,2-Dichloropropane	93		93		70-130	0		20
1,2-Dibromoethane	85		85		70-130	0		20
1,3-Dichloropropane	93		93		70-130	0		20
1,1,1,2-Tetrachloroethane	91		92		70-130	1		20
Bromobenzene	88		89		70-130	1		20
n-Butylbenzene	98		97		70-130	1		20
sec-Butylbenzene	95		94		70-130	1		20
tert-Butylbenzene	93		92		70-130	1		20
o-Chlorotoluene	91		90		70-130	1		20
p-Chlorotoluene	89		89		70-130	0		20
1,2-Dibromo-3-chloropropane	89		87		70-130	2		20
Hexachlorobutadiene	91		90		70-130	1		20
Isopropylbenzene	94		94		70-130	0		20
p-Isopropyltoluene	96		96		70-130	0		20
Naphthalene	95		93		70-130	2		20
n-Propylbenzene	96		96		70-130	0		20
1,2,3-Trichlorobenzene	94		94		70-130	0		20
1,2,4-Trichlorobenzene	97		96		70-130	1		20
1,3,5-Trimethylbenzene	91		90		70-130	1		20
1,2,4-Trimethylbenzene	92		92		70-130	0		20
Diethyl ether	92		95		70-130	3		20
Diisopropyl Ether	100		101		70-130	1		20
Ethyl-Tert-Butyl-Ether	95		97		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375037

Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868494-3 WG1868494-4								
Tertiary-Amyl Methyl Ether	90		92		70-130	2		20
1,4-Dioxane	83		82		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		89		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	94		94		70-130

SEMIVOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01
Client ID: HA23-TP12_0-4.1
Sample Location: BOSTON, MA

Date Collected: 12/19/23 10:15
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/23/23 06:06
Analyst: CMM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 12/21/23 09:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	260		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	79	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	79	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	79	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	79	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	3500		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	79	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	79	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	590		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	79	--	1
Benzo(a)anthracene	1700		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01 Date Collected: 12/19/23 10:15

Client ID: HA23-TP12_0-4.1 Date Received: 12/19/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1600		ug/kg	150	--	1
Benzo(b)fluoranthene	2000		ug/kg	110	--	1
Benzo(k)fluoranthene	650		ug/kg	110	--	1
Chrysene	1700		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	640		ug/kg	110	--	1
Benzo(ghi)perylene	910		ug/kg	150	--	1
Fluorene	210		ug/kg	190	--	1
Phenanthrene	2900		ug/kg	110	--	1
Dibenzo(a,h)anthracene	250		ug/kg	79	--	1
Indeno(1,2,3-cd)pyrene	950		ug/kg	150	--	1
Pyrene	3000		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	200		ug/kg	190	--	1
2-Methylnaphthalene	99		ug/kg	79	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	79	--	1
2-Chlorophenol	ND		ug/kg	79	--	1
2,4-Dichlorophenol	ND		ug/kg	79	--	1
2,4-Dimethylphenol	ND		ug/kg	79	--	1
2-Nitrophenol	ND		ug/kg	410	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	38	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01 Date Collected: 12/19/23 10:15

Client ID: HA23-TP12_0-4.1 Date Received: 12/19/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	69		30-130
Phenol-d6	80		30-130
Nitrobenzene-d5	86		30-130
2-Fluorobiphenyl	72		30-130
2,4,6-Tribromophenol	51		30-130
4-Terphenyl-d14	55		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/23/23 00:21
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 12/21/23 09:38

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1866830-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/23/23 00:21
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 12/21/23 09:38

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1866830-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/23/23 00:21
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 12/21/23 09:38

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1866830-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		30-130
Phenol-d6	85		30-130
Nitrobenzene-d5	81		30-130
2-Fluorobiphenyl	79		30-130
2,4,6-Tribromophenol	76		30-130
4-Terphenyl-d14	78		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1866830-2 WG1866830-3								
Acenaphthene	79		71		40-140	11		30
1,2,4-Trichlorobenzene	76		71		40-140	7		30
Hexachlorobenzene	79		74		40-140	7		30
Bis(2-chloroethyl)ether	80		73		40-140	9		30
2-Chloronaphthalene	81		75		40-140	8		30
1,2-Dichlorobenzene	76		70		40-140	8		30
1,3-Dichlorobenzene	77		68		40-140	12		30
1,4-Dichlorobenzene	76		70		40-140	8		30
3,3'-Dichlorobenzidine	47		52		40-140	10		30
2,4-Dinitrotoluene	88		82		40-140	7		30
2,6-Dinitrotoluene	88		82		40-140	7		30
Azobenzene	81		75		40-140	8		30
Fluoranthene	83		74		40-140	11		30
4-Bromophenyl phenyl ether	81		74		40-140	9		30
Bis(2-chloroisopropyl)ether	79		72		40-140	9		30
Bis(2-chloroethoxy)methane	83		75		40-140	10		30
Hexachlorobutadiene	77		70		40-140	10		30
Hexachloroethane	77		70		40-140	10		30
Isophorone	82		76		40-140	8		30
Naphthalene	80		74		40-140	8		30
Nitrobenzene	83		76		40-140	9		30
Bis(2-ethylhexyl)phthalate	87		82		40-140	6		30
Butyl benzyl phthalate	95		85		40-140	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1866830-2 WG1866830-3								
Di-n-butylphthalate	83		77		40-140	8		30
Di-n-octylphthalate	93		85		40-140	9		30
Diethyl phthalate	81		75		40-140	8		30
Dimethyl phthalate	84		78		40-140	7		30
Benzo(a)anthracene	79		73		40-140	8		30
Benzo(a)pyrene	86		78		40-140	10		30
Benzo(b)fluoranthene	85		77		40-140	10		30
Benzo(k)fluoranthene	84		75		40-140	11		30
Chrysene	79		73		40-140	8		30
Acenaphthylene	84		78		40-140	7		30
Anthracene	82		74		40-140	10		30
Benzo(ghi)perylene	86		79		40-140	8		30
Fluorene	80		73		40-140	9		30
Phenanthrene	80		72		40-140	11		30
Dibenzo(a,h)anthracene	85		77		40-140	10		30
Indeno(1,2,3-cd)pyrene	77		70		40-140	10		30
Pyrene	82		74		40-140	10		30
Aniline	59		64		40-140	8		30
4-Chloroaniline	87		58		40-140	**40**	Q	30
Dibenzofuran	79		72		40-140	9		30
2-Methylnaphthalene	82		75		40-140	9		30
Acetophenone	84		76		40-140	10		30
2,4,6-Trichlorophenol	86		82		30-130	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2375037
Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1866830-2 WG1866830-3								
2-Chlorophenol	82		76		30-130	8		30
2,4-Dichlorophenol	84		78		30-130	7		30
2,4-Dimethylphenol	120		107		30-130	11		30
2-Nitrophenol	88		83		30-130	6		30
4-Nitrophenol	96		86		30-130	11		30
2,4-Dinitrophenol	54		55		30-130	2		30
Pentachlorophenol	77		71		30-130	8		30
Phenol	82		75		30-130	9		30
2-Methylphenol	86		81		30-130	6		30
3-Methylphenol/4-Methylphenol	85		79		30-130	7		30
2,4,5-Trichlorophenol	88		80		30-130	10		30
Pyridine	64		58		30-130	10		30
Biphenyl	82		76		40-140	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	84		77		30-130
Phenol-d6	86		79		30-130
Nitrobenzene-d5	81		76		30-130
2-Fluorobiphenyl	80		73		30-130
2,4,6-Tribromophenol	79		72		30-130
4-Terphenyl-d14	79		71		30-130

PETROLEUM HYDROCARBONS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2375037
Project Number: 134206-012
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01
Client ID: HA23-TP12_0-4.1
Sample Location: BOSTON, MA

Date Collected: 12/19/23 10:15
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/22/23 13:16
Analyst: CRE
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 12/21/23 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	133000		ug/kg	37100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	67		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 12/22/23 08:05
Analyst: CRE

Extraction Method: EPA 3546
Extraction Date: 12/21/23 12:22

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1866916-1					
TPH (C10-C36)	ND		ug/kg	32500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	59		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375037

Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1866916-2								
TPH (C10-C36)	62		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	56				40-140

PCBS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2375037
Project Number: 134206-012
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01
Client ID: HA23-TP12_0-4.1
Sample Location: BOSTON, MA

Date Collected: 12/19/23 10:15
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/22/23 15:58
Analyst: MEO
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 12/21/23 20:01
Cleanup Method: EPA 3665A
Cleanup Date: 12/22/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/22/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	55.7	--	1	A
Aroclor 1221	ND		ug/kg	55.7	--	1	A
Aroclor 1232	ND		ug/kg	55.7	--	1	A
Aroclor 1242	ND		ug/kg	55.7	--	1	A
Aroclor 1248	ND		ug/kg	55.7	--	1	A
Aroclor 1254	ND		ug/kg	55.7	--	1	A
Aroclor 1260	ND		ug/kg	55.7	--	1	A
Aroclor 1262	ND		ug/kg	55.7	--	1	A
Aroclor 1268	ND		ug/kg	55.7	--	1	A
PCBs, Total	ND		ug/kg	55.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	68		30-150	A
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/22/23 14:28
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 12/21/23 20:01
Cleanup Method: EPA 3665A
Cleanup Date: 12/22/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/22/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1867097-1						
Aroclor 1016	ND		ug/kg	47.3	--	A
Aroclor 1221	ND		ug/kg	47.3	--	A
Aroclor 1232	ND		ug/kg	47.3	--	A
Aroclor 1242	ND		ug/kg	47.3	--	A
Aroclor 1248	ND		ug/kg	47.3	--	A
Aroclor 1254	ND		ug/kg	47.3	--	A
Aroclor 1260	ND		ug/kg	47.3	--	A
Aroclor 1262	ND		ug/kg	47.3	--	A
Aroclor 1268	ND		ug/kg	47.3	--	A
PCBs, Total	ND		ug/kg	47.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	59		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	58		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375037

Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1867097-2 WG1867097-3									
Aroclor 1016	75		73		40-140	3		30	A
Aroclor 1260	68		66		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		71		30-150	A
Decachlorobiphenyl	65		62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		69		30-150	B
Decachlorobiphenyl	66		62		30-150	B

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2375037
Project Number: 134206-012
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01
Client ID: HA23-TP12_0-4.1
Sample Location: BOSTON, MA

Date Collected: 12/19/23 10:15
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.24	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Arsenic, Total	3.68		mg/kg	0.447	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Barium, Total	41.2		mg/kg	0.447	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Beryllium, Total	0.231		mg/kg	0.224	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Cadmium, Total	ND		mg/kg	0.447	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Chromium, Total	10.6		mg/kg	0.447	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Lead, Total	142		mg/kg	2.24	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Mercury, Total	0.176		mg/kg	0.077	--	1	12/21/23 06:35	12/27/23 11:17	EPA 7471B	97,7471B	GMG
Nickel, Total	8.25		mg/kg	1.12	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Selenium, Total	ND		mg/kg	2.24	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Silver, Total	ND		mg/kg	0.447	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Thallium, Total	ND		mg/kg	2.24	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Vanadium, Total	14.6		mg/kg	0.447	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY
Zinc, Total	156		mg/kg	2.24	--	1	12/22/23 08:45	12/22/23 19:10	EPA 3050B	97,6010D	CEY

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1866396-1										
Mercury, Total	ND		mg/kg	0.083	--	1	12/21/23 06:35	12/27/23 09:51	97,7471B	GMG

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1867191-1										
Antimony, Total	ND		mg/kg	2.00	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Arsenic, Total	ND		mg/kg	0.400	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Barium, Total	ND		mg/kg	0.400	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Beryllium, Total	ND		mg/kg	0.200	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Cadmium, Total	ND		mg/kg	0.400	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Chromium, Total	ND		mg/kg	0.400	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Lead, Total	ND		mg/kg	2.00	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Nickel, Total	ND		mg/kg	1.00	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Selenium, Total	ND		mg/kg	2.00	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Silver, Total	ND		mg/kg	0.400	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Thallium, Total	ND		mg/kg	2.00	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Vanadium, Total	ND		mg/kg	0.400	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY
Zinc, Total	ND		mg/kg	2.00	--	1	12/22/23 08:45	12/22/23 18:57	97,6010D	CEY

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1866396-2 WG1866396-3 SRM Lot Number: D122-540								
Mercury, Total	83		83		73-127	0		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1867191-2 WG1867191-3 SRM Lot Number: D122-540								
Antimony, Total	164		153		6-194	7		30
Arsenic, Total	101		91		81-119	10		30
Barium, Total	92		**82**	Q	83-117	11		30
Beryllium, Total	95		92		83-117	3		30
Cadmium, Total	96		86		83-117	11		30
Chromium, Total	96		92		82-118	4		30
Lead, Total	98		88		83-117	11		30
Nickel, Total	100		91		83-117	9		30
Selenium, Total	100		92		81-119	8		30
Silver, Total	100		91		80-120	9		30
Thallium, Total	96		87		81-119	10		30
Vanadium, Total	92		84		80-120	9		30
Zinc, Total	99		90		82-119	10		30

INORGANICS
&
MISCELLANEOUS

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

SAMPLE RESULTS

Lab ID:	L2375037-01	Date Collected:	12/19/23 10:15
Client ID:	HA23-TP12_0-4.1	Date Received:	12/19/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	12/27/23 15:08	1,1030	GEF

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2375037-01
Client ID: HA23-TP12_0-4.1
Sample Location: BOSTON, MA

Date Collected: 12/19/23 10:15
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	350		umhos/cm	10	--	1	-	12/26/23 22:06	1,9050A	AAS
Solids, Total	87.0		%	0.100	NA	1	-	12/20/23 00:57	121,2540G	WJM
pH (H)	9.23		SU	-	NA	1	-	12/26/23 19:46	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/27/23 13:20	12/27/23 15:37	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/27/23 13:20	12/27/23 15:49	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375037

Project Number: 134206-012 **Report Date:** 12/27/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1868556-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	12/27/23 13:20	12/27/23 15:31	125,7.3	JLB
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1868561-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	12/27/23 13:20	12/27/23 15:43	125,7.3	JLB

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375037

Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1868254-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1868256-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1868556-2								
Cyanide, Reactive	93		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1868561-2								
Sulfide, Reactive	89		-		60-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375037

Report Date: 12/27/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1868556-3 QC Sample: L2375037-01 Client ID: HA23-TP12_0-4.1						
Cyanide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1868561-3 QC Sample: L2375037-01 Client ID: HA23-TP12_0-4.1						
Sulfide, Reactive	ND	ND	mg/kg	NC		40

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375037
Report Date: 12/27/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2375037-01A	Vial MeOH preserved	C	NA		2.3	Y	Absent		MCP-8260HLW-21(14)
L2375037-01B	Vial water preserved	C	NA		2.3	Y	Absent	19-DEC-23 22:06	MCP-8260HLW-21(14)
L2375037-01C	Vial water preserved	C	NA		2.3	Y	Absent	19-DEC-23 22:06	MCP-8260HLW-21(14)
L2375037-01D	Vial Large Septa unpreserved (4oz)	C	NA		2.3	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2375037-01E	Plastic 2oz unpreserved for TS	C	NA		2.3	Y	Absent		TS(7)
L2375037-01F	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2375037-01G	Glass 120ml/4oz unpreserved/No Headspace	C	NA		2.3	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2375037-01H	Glass 250ml/8oz unpreserved	C	NA		2.3	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2375037-01I	Glass 500ml/16oz unpreserved	C	NA		2.3	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375037
Project Number:	134206-012	**Report Date:**	12/27/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
6 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 12/19/23

ALPHA Job # L2375037

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project #: 134206-012
(Use Project name as Project #) ☐
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre-approved) # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1
Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	VOCs	SVOCs	MCP 14 Metals	PCBs	TPH	Waste Characteristics (1)	Herbicides / Pesticides		Sample Specific Comments	Total # of Bottles
75037-01	HA23-TP12_0-4.1	12/19/23	10:15	SO	JDB	0-4.1	X	X	X	X	X	X				9
Container Type							A	A	A	A	A	A	A			
Preservative							F	A	A	A	A	A	A			

Preservative Code:
= None
= HCl
= HNO_3
= H_2SO_4
= NaOH
= MeOH
= $NaHSO_4$
= $Na_2S_2O_3$
E = Zn Ac/NaOH
= Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
Jack Bitney	12/19/23 - 14:36	[illegible] AAL	12-19-23 16:30
[illegible] AAL	12-19-23 1825	[illegible]	12/19 1825

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2375037
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1868494-5	**Lab File ID**	: V04231226A05
Instrument ID	: VOA104		
Matrix	: SOIL	**Analysis Date**	: 12/26/23 10:13

Client Sample No.	Lab Sample ID	Analysis Date
WG1868494-3LCS	WG1868494-3	12/26/23 08:56
WG1868494-4LCSD	WG1868494-4	12/26/23 09:22
HA23-TP12_0-4.1	L2375037-01	12/26/23 15:48

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2375037
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA104	Calibration Date	: 12/26/23 08:31
Lab File ID	: V04231226A01	Init. Calib. Date(s)	: 12/15/23 12/15/23
Sample No	: WG1868494-2	Init. Calib. Times	: 16:22 20:38
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	134	0
Dichlorodifluoromethane	0.426	0.303	-	28.9*	20	99	0
Chloromethane	0.386	0.428	-	-10.9	20	147	0
Vinyl chloride	40	36.053	-	9.9	20	125	0
Bromomethane	0.325	0.244	-	24.9*	20	105	0
Chloroethane	0.215	0.176	-	18.1	20	100	0
Trichlorofluoromethane	0.552	0.411	-	25.5*	20	103	0
Ethyl ether	0.124	0.127	-	-2.4	20	132	0
1,1-Dichloroethene	40	36.765	-	8.1	20	128	0
Carbon disulfide	0.984	1.191	-	-21*	20	154	0
Freon-113	0.341	0.276	-	19.1	20	111	0
Acrolein	0.032	0.034	-	-6.3	20	134	0
Methylene chloride	0.368	0.301	-	18.2	20	124	0
Acetone	0.056	0.063	-	-12.5	20	152	0
trans-1,2-Dichloroethene	0.307	0.308	-	-0.3	20	129	0
Methyl acetate	0.11	0.111	-	-0.9	20	131	0
Methyl tert-butyl ether	0.699	0.68	-	2.7	20	124	0
tert-Butyl alcohol	0.022	0.022	-	0	20	123	0
Diisopropyl ether	0.842	0.904	-	-7.4	20	137	0
1,1-Dichloroethane	0.56	0.553	-	1.3	20	128	0
Halothane	0.239	0.239	-	0	20	125	0
Acrylonitrile	0.052	0.053	-	-1.9	20	132	0
Ethyl tert-butyl ether	0.827	0.829	-	-0.2	20	127	0
Vinyl acetate	0.536	0.516	-	3.7	20	122	0
cis-1,2-Dichloroethene	0.343	0.324	-	5.5	20	124	0
2,2-Dichloropropane	0.462	0.457	-	1.1	20	129	0
Bromochloromethane	0.158	0.142	-	10.1	20	116	0
Cyclohexane	0.478	0.438	-	8.4	20	128	0
Chloroform	0.558	0.495	-	11.3	20	117	0
Ethyl acetate	0.185	0.171	-	7.6	20	121	0
Carbon tetrachloride	40	32.47	-	18.8	20	115	0
Tetrahydrofuran	0.052	0.066	-	-26.9*	20	160	0
Dibromofluoromethane	0.278	0.267	-	4	20	131	0
1,1,1-Trichloroethane	40	33.819	-	15.5	20	116	0
2-Butanone	40	41.369	-	-3.4	20	134	0
1,1-Dichloropropene	40	36.492	-	8.8	20	126	0
Benzene	1.074	1.066	-	0.7	20	125	0
tert-Amyl methyl ether	0.719	0.677	-	5.8	20	122	0
1,2-Dichloroethane-d4	0.264	0.236	-	10.6	20	125	0
1,2-Dichloroethane	0.386	0.325	-	15.8	20	110	0
Methyl cyclohexane	0.512	0.42	-	18	20	116	0
Trichloroethene	0.318	0.304	-	4.4	20	120	0
Dibromomethane	0.176	0.153	-	13.1	20	111	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2375037
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA104	Calibration Date	: 12/26/23 08:31
Lab File ID	: V04231226A01	Init. Calib. Date(s)	: 12/15/23 12/15/23
Sample No	: WG1868494-2	Init. Calib. Times	: 16:22 20:38
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.287	0.28	-	2.4	20	125	0
2-Chloroethyl vinyl ether	0.155	0.027	-	82.6*	20	23	0
Bromodichloromethane	0.407	0.368	-	9.6	20	113	0
1,4-Dioxane	0.0022	0.00186*	-	15.5	20	105	0
cis-1,3-Dichloropropene	0.435	0.438	-	-0.7	20	122	0
Chlorobenzene-d5	1	1	-	0	20	129	0
Toluene-d8	1.269	1.333	-	-5	20	133	0
Toluene	0.905	0.906	-	-0.1	20	126	0
4-Methyl-2-pentanone	0.096	0.094	-	2.1	20	120	0
Tetrachloroethene	40	35.101	-	12.2	20	116	0
trans-1,3-Dichloropropene	0.495	0.481	-	2.8	20	114	0
Ethyl methacrylate	0.333	0.327	-	1.8	20	118	0
1,1,2-Trichloroethane	0.255	0.235	-	7.8	20	112	0
Chlorodibromomethane	0.389	0.363	-	6.7	20	109	0
1,3-Dichloropropane	0.475	0.452	-	4.8	20	116	0
1,2-Dibromoethane	40	34.473	-	13.8	20	110	0
2-Hexanone	0.169	0.156	-	7.7	20	118	0
Chlorobenzene	1.061	1.025	-	3.4	20	118	0
Ethylbenzene	1.763	1.722	-	2.3	20	121	0
1,1,1,2-Tetrachloroethane	0.399	0.379	-	5	20	112	0
p/m Xylene	0.654	0.655	-	-0.2	20	122	0
o Xylene	0.668	0.636	-	4.8	20	111	0
Styrene	1.071	1.018	-	4.9	20	103	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	111	0
Bromoform	0.471	0.435	-	7.6	20	100	0
Isopropylbenzene	3.155	3.1	-	1.7	20	104	0
4-Bromofluorobenzene	0.868	0.804	-	7.4	20	101	0
Bromobenzene	0.934	0.807	-	13.6	20	93	0
n-Propylbenzene	3.691	3.561	-	3.5	20	100	0
1,4-Dichlorobutane	0.794	0.744	-	6.3	20	96	0
1,1,2,2-Tetrachloroethane	0.668	0.618	-	7.5	20	94	0
4-Ethyltoluene	3.084	3.019	-	2.1	20	102	0
2-Chlorotoluene	2.242	2.073	-	7.5	20	100	0
1,3,5-Trimethylbenzene	2.746	2.568	-	6.5	20	101	0
1,2,3-Trichloropropane	0.504	0.435	-	13.7	20	93	0
trans-1,4-Dichloro-2-buten	0.177	0.155	-	12.4	20	94	0
4-Chlorotoluene	2.371	2.216	-	6.5	20	102	0
tert-Butylbenzene	2.358	2.279	-	3.4	20	104	0
1,2,4-Trimethylbenzene	2.668	2.543	-	4.7	20	101	0
sec-Butylbenzene	3.411	3.389	-	0.6	20	104	0
p-Isopropyltoluene	2.981	2.985	-	-0.1	20	105	0
1,3-Dichlorobenzene	1.662	1.551	-	6.7	20	101	0
1,4-Dichlorobenzene	1.71	1.56	-	8.8	20	101	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2375037
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Instrument ID	: VOA104	**Calibration Date**	: 12/26/23 08:31
Lab File ID	: V04231226A01	**Init. Calib. Date(s)**	: 12/15/23 12/15/23
Sample No	: WG1868494-2	**Init. Calib. Times**	: 16:22 20:38
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.809	1.839	-	-1.7	20	106	0
n-Butylbenzene	2.55	2.612	-	-2.4	20	105	0
1,2-Dichlorobenzene	1.576	1.444	-	8.4	20	99	0
1,2,4,5-Tetramethylbenzene	2.998	2.877	-	4	20	102	0
1,2-Dibromo-3-chloropropan	0.119	0.106	-	10.9	20	95	0
1,3,5-Trichlorobenzene	1.418	1.39	-	2	20	104	0
Hexachlorobutadiene	0.814	0.768	-	5.7	20	104	0
1,2,4-Trichlorobenzene	1.189	1.186	-	0.3	20	105	0
Naphthalene	2.069	2.007	-	3	20	114	0
1,2,3-Trichlorobenzene	1.057	0.991	-	6.2	20	112	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2375330
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	12/28/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2375330-01	HA23-TP10(ALT)_0-5	SOIL	BOSTON, MA	12/20/23 08:00	12/20/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2375330-01: Initial calibration utilized a quadratic fit for: 1,1,1,2-tetrachloroethane

In reference to question H:

L2375330-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: trichloroethene (0.1904), bromodichloromethane (0.2472), 1,4-dioxane (0.0032), cis-1,3-dichloropropene (0.2490)

Average Response Factor: 1,4-dioxane

Verification: dichlorodifluoromethane (62%)

L2375330-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 12/28/23

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1867807-3	2,4-Dinitrophenol	LCSD	38	30	01	non-directional bias

ORGANICS

VOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01
Client ID: HA23-TP10(ALT)_0-5
Sample Location: BOSTON, MA

Date Collected: 12/20/23 08:00
Date Received: 12/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/26/23 19:20
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.8	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.7	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	1.2	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.58	--	1
Chlorobenzene	ND		ug/kg	0.58	--	1
Trichlorofluoromethane	ND		ug/kg	4.6	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.58	--	1
Bromodichloromethane	ND		ug/kg	0.58	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.58	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.58	--	1
1,1-Dichloropropene	ND		ug/kg	0.58	--	1
Bromoform	ND		ug/kg	4.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.58	--	1
Benzene	ND		ug/kg	0.58	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	4.6	--	1
Bromomethane	ND		ug/kg	2.3	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.3	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01 Date Collected: 12/20/23 08:00

Client ID: HA23-TP10(ALT)_0-5 Date Received: 12/20/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.58	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	--	1
Methyl tert butyl ether	ND		ug/kg	2.3	--	1
p/m-Xylene	ND		ug/kg	2.3	--	1
o-Xylene	ND		ug/kg	1.2	--	1
Xylenes, Total	ND		ug/kg	1.2	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	2.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.3	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	ND		ug/kg	29	--	1
Carbon disulfide	ND		ug/kg	12	--	1
Methyl ethyl ketone	ND		ug/kg	12	--	1
Methyl isobutyl ketone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	2.3	--	1
Tetrahydrofuran	ND		ug/kg	4.6	--	1
2,2-Dichloropropane	ND		ug/kg	2.3	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.58	--	1
Bromobenzene	ND		ug/kg	2.3	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.3	--	1
o-Chlorotoluene	ND		ug/kg	2.3	--	1
p-Chlorotoluene	ND		ug/kg	2.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.5	--	1
Hexachlorobutadiene	ND		ug/kg	4.6	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	4.6	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01 Date Collected: 12/20/23 08:00

Client ID: HA23-TP10(ALT)_0-5 Date Received: 12/20/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	--	1
Diethyl ether	ND		ug/kg	2.3	--	1
Diisopropyl Ether	ND		ug/kg	2.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.3	--	1
1,4-Dioxane	ND		ug/kg	93	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	104		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/26/23 15:44
Analyst: RAW

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1868633-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/26/23 15:44
Analyst: RAW

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1868633-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/26/23 15:44
Analyst: RAW

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1868633-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868633-3 WG1868633-4								
Methylene chloride	91		97		70-130	6		20
1,1-Dichloroethane	93		99		70-130	6		20
Chloroform	90		98		70-130	9		20
Carbon tetrachloride	93		99		70-130	6		20
1,2-Dichloropropane	99		105		70-130	6		20
Dibromochloromethane	92		104		70-130	12		20
1,1,2-Trichloroethane	93		103		70-130	10		20
Tetrachloroethene	89		96		70-130	8		20
Chlorobenzene	88		96		70-130	9		20
Trichlorofluoromethane	95		99		70-130	4		20
1,2-Dichloroethane	98		107		70-130	9		20
1,1,1-Trichloroethane	93		99		70-130	6		20
Bromodichloromethane	96		104		70-130	8		20
trans-1,3-Dichloropropene	86		98		70-130	13		20
cis-1,3-Dichloropropene	97		103		70-130	6		20
1,1-Dichloropropene	98		104		70-130	6		20
Bromoform	85		95		70-130	11		20
1,1,2,2-Tetrachloroethane	95		104		70-130	9		20
Benzene	94		100		70-130	6		20
Toluene	86		94		70-130	9		20
Ethylbenzene	89		97		70-130	9		20
Chloromethane	96		102		70-130	6		20
Bromomethane	85		90		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868633-3 WG1868633-4								
Vinyl chloride	93		99		70-130	6		20
Chloroethane	99		108		70-130	9		20
1,1-Dichloroethene	91		96		70-130	5		20
trans-1,2-Dichloroethene	87		92		70-130	6		20
Trichloroethene	96		102		70-130	6		20
1,2-Dichlorobenzene	86		92		70-130	7		20
1,3-Dichlorobenzene	85		91		70-130	7		20
1,4-Dichlorobenzene	85		91		70-130	7		20
Methyl tert butyl ether	96		106		70-130	10		20
p/m-Xylene	88		97		70-130	10		20
o-Xylene	89		97		70-130	9		20
cis-1,2-Dichloroethene	88		92		70-130	4		20
Dibromomethane	90		100		70-130	11		20
1,2,3-Trichloropropane	88		100		70-130	13		20
Styrene	92		100		70-130	8		20
Dichlorodifluoromethane	85		89		70-130	5		20
Acetone	110		121		70-130	10		20
Carbon disulfide	92		97		70-130	5		20
Methyl ethyl ketone	97		108		70-130	11		20
Methyl isobutyl ketone	93		106		70-130	13		20
2-Hexanone	99		112		70-130	12		20
Bromochloromethane	85		93		70-130	9		20
Tetrahydrofuran	96		102		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868633-3 WG1868633-4								
2,2-Dichloropropane	79		84		70-130	6		20
1,2-Dibromoethane	93		103		70-130	10		20
1,3-Dichloropropane	94		104		70-130	10		20
1,1,1,2-Tetrachloroethane	79		88		70-130	11		20
Bromobenzene	84		90		70-130	7		20
n-Butylbenzene	95		102		70-130	7		20
sec-Butylbenzene	91		97		70-130	6		20
tert-Butylbenzene	87		92		70-130	6		20
o-Chlorotoluene	87		94		70-130	8		20
p-Chlorotoluene	89		96		70-130	8		20
1,2-Dibromo-3-chloropropane	82		90		70-130	9		20
Hexachlorobutadiene	80		87		70-130	8		20
Isopropylbenzene	89		95		70-130	7		20
p-Isopropyltoluene	90		96		70-130	6		20
Naphthalene	89		98		70-130	10		20
n-Propylbenzene	92		96		70-130	4		20
1,2,3-Trichlorobenzene	89		97		70-130	9		20
1,2,4-Trichlorobenzene	92		98		70-130	6		20
1,3,5-Trimethylbenzene	90		95		70-130	5		20
1,2,4-Trimethylbenzene	90		96		70-130	6		20
Diethyl ether	99		107		70-130	8		20
Diisopropyl Ether	110		118		70-130	7		20
Ethyl-Tert-Butyl-Ether	99		107		70-130	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375330

Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1868633-3 WG1868633-4								
Tertiary-Amyl Methyl Ether	87		95		70-130	9		20
1,4-Dioxane	84		93		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		109		70-130
Toluene-d8	97		100		70-130
4-Bromofluorobenzene	101		100		70-130
Dibromofluoromethane	99		101		70-130

SEMIVOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01
Client ID: HA23-TP10(ALT)_0-5
Sample Location: BOSTON, MA

Date Collected: 12/20/23 08:00
Date Received: 12/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/27/23 00:15
Analyst: EK
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/23/23 17:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	75	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	75	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	75	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	75	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	160		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	75	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	75	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	75	--	1
Benzo(a)anthracene	ND		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01 Date Collected: 12/20/23 08:00

Client ID: HA23-TP10(ALT)_0-5 Date Received: 12/20/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	ND		ug/kg	110	--	1
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	ND		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	ND		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	75	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	--	1
Pyrene	130		ug/kg	110	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	75	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	75	--	1
2-Chlorophenol	ND		ug/kg	75	--	1
2,4-Dichlorophenol	ND		ug/kg	75	--	1
2,4-Dimethylphenol	ND		ug/kg	75	--	1
2-Nitrophenol	ND		ug/kg	380	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	860	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	190	--	1
Biphenyl	ND		ug/kg	36	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01 Date Collected: 12/20/23 08:00

Client ID: HA23-TP10(ALT)_0-5 Date Received: 12/20/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	56		30-130
Phenol-d6	62		30-130
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	60		30-130
2,4,6-Tribromophenol	56		30-130
4-Terphenyl-d14	63		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/26/23 22:41
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/23/23 16:17

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1867807-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/26/23 22:41
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/23/23 16:17

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1867807-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/26/23 22:41
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/23/23 16:17

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1867807-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		30-130
Phenol-d6	71		30-130
Nitrobenzene-d5	73		30-130
2-Fluorobiphenyl	71		30-130
2,4,6-Tribromophenol	63		30-130
4-Terphenyl-d14	81		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1867807-2 WG1867807-3								
Acenaphthene	69		76		40-140	10		30
1,2,4-Trichlorobenzene	64		69		40-140	8		30
Hexachlorobenzene	73		81		40-140	10		30
Bis(2-chloroethyl)ether	67		71		40-140	6		30
2-Chloronaphthalene	69		75		40-140	8		30
1,2-Dichlorobenzene	62		66		40-140	6		30
1,3-Dichlorobenzene	61		64		40-140	5		30
1,4-Dichlorobenzene	60		64		40-140	6		30
3,3'-Dichlorobenzidine	56		62		40-140	10		30
2,4-Dinitrotoluene	82		91		40-140	10		30
2,6-Dinitrotoluene	79		84		40-140	6		30
Azobenzene	72		81		40-140	12		30
Fluoranthene	75		82		40-140	9		30
4-Bromophenyl phenyl ether	74		81		40-140	9		30
Bis(2-chloroisopropyl)ether	65		70		40-140	7		30
Bis(2-chloroethoxy)methane	69		75		40-140	8		30
Hexachlorobutadiene	63		68		40-140	8		30
Hexachloroethane	62		66		40-140	6		30
Isophorone	69		74		40-140	7		30
Naphthalene	67		72		40-140	7		30
Nitrobenzene	69		76		40-140	10		30
Bis(2-ethylhexyl)phthalate	78		86		40-140	10		30
Butyl benzyl phthalate	86		93		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1867807-2 WG1867807-3								
Di-n-butylphthalate	76		83		40-140	9		30
Di-n-octylphthalate	82		91		40-140	10		30
Diethyl phthalate	72		81		40-140	12		30
Dimethyl phthalate	70		77		40-140	10		30
Benzo(a)anthracene	73		80		40-140	9		30
Benzo(a)pyrene	79		87		40-140	10		30
Benzo(b)fluoranthene	79		87		40-140	10		30
Benzo(k)fluoranthene	77		84		40-140	9		30
Chrysene	73		80		40-140	9		30
Acenaphthylene	71		76		40-140	7		30
Anthracene	74		82		40-140	10		30
Benzo(ghi)perylene	81		90		40-140	11		30
Fluorene	71		78		40-140	9		30
Phenanthrene	71		79		40-140	11		30
Dibenzo(a,h)anthracene	78		87		40-140	11		30
Indeno(1,2,3-cd)pyrene	72		79		40-140	9		30
Pyrene	74		81		40-140	9		30
Aniline	61		68		40-140	11		30
4-Chloroaniline	65		81		40-140	22		30
Dibenzofuran	68		76		40-140	11		30
2-Methylnaphthalene	69		73		40-140	6		30
Acetophenone	70		76		40-140	8		30
2,4,6-Trichlorophenol	74		79		30-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1867807-2 WG1867807-3								
2-Chlorophenol	68		75		30-130	10		30
2,4-Dichlorophenol	71		77		30-130	8		30
2,4-Dimethylphenol	90		103		30-130	13		30
2-Nitrophenol	77		84		30-130	9		30
4-Nitrophenol	86		95		30-130	10		30
2,4-Dinitrophenol	41		60		30-130	**38**	Q	30
Pentachlorophenol	61		72		30-130	17		30
Phenol	69		75		30-130	8		30
2-Methylphenol	71		77		30-130	8		30
3-Methylphenol/4-Methylphenol	69		76		30-130	10		30
2,4,5-Trichlorophenol	73		81		30-130	10		30
Pyridine	47		47		30-130	0		30
Biphenyl	70		74		40-140	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	73		80		30-130
Phenol-d6	74		80		30-130
Nitrobenzene-d5	72		79		30-130
2-Fluorobiphenyl	70		75		30-130
2,4,6-Tribromophenol	78		88		30-130
4-Terphenyl-d14	76		83		30-130

PETROLEUM HYDROCARBONS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2375330
Project Number: 134206-012
Report Date: 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01
Client ID: HA23-TP10(ALT)_0-5
Sample Location: BOSTON, MA

Date Collected: 12/20/23 08:00
Date Received: 12/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/26/23 17:39
Analyst: CRE
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/23/23 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	269000		ug/kg	36200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	76		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 12/26/23 15:09
Analyst: CRE

Extraction Method: EPA 3546
Extraction Date: 12/23/23 18:57

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1867828-1					
TPH (C10-C36)	ND		ug/kg	33100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	84		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375330

Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1867828-2								
TPH (C10-C36)	77		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	74				40-140

PCBS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2375330
Project Number: 134206-012
Report Date: 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01
Client ID: HA23-TP10(ALT)_0-5
Sample Location: BOSTON, MA

Date Collected: 12/20/23 08:00
Date Received: 12/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/27/23 10:02
Analyst: EMR
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/24/23 18:59
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	51.0	--	1	A
Aroclor 1221	ND		ug/kg	51.0	--	1	A
Aroclor 1232	ND		ug/kg	51.0	--	1	A
Aroclor 1242	ND		ug/kg	51.0	--	1	A
Aroclor 1248	ND		ug/kg	51.0	--	1	A
Aroclor 1254	ND		ug/kg	51.0	--	1	A
Aroclor 1260	ND		ug/kg	51.0	--	1	A
Aroclor 1262	ND		ug/kg	51.0	--	1	A
Aroclor 1268	ND		ug/kg	51.0	--	1	A
PCBs, Total	ND		ug/kg	51.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	61		30-150	A
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	60		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/27/23 09:23
Analyst: EMR

Extraction Method: EPA 3546
Extraction Date: 12/24/23 18:59
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1867940-1						
Aroclor 1016	ND		ug/kg	50.0	--	A
Aroclor 1221	ND		ug/kg	50.0	--	A
Aroclor 1232	ND		ug/kg	50.0	--	A
Aroclor 1242	ND		ug/kg	50.0	--	A
Aroclor 1248	ND		ug/kg	50.0	--	A
Aroclor 1254	ND		ug/kg	50.0	--	A
Aroclor 1260	ND		ug/kg	50.0	--	A
Aroclor 1262	ND		ug/kg	50.0	--	A
Aroclor 1268	ND		ug/kg	50.0	--	A
PCBs, Total	ND		ug/kg	50.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	64		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375330

Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1867940-2 WG1867940-3									
Aroclor 1016	65		69		40-140	6		30	A
Aroclor 1260	64		68		40-140	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		74		30-150	A
Decachlorobiphenyl	69		75		30-150	A
2,4,5,6-Tetrachloro-m-xylene	64		68		30-150	B
Decachlorobiphenyl	67		71		30-150	B

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2375330
Project Number: 134206-012
Report Date: 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01
Client ID: HA23-TP10(ALT)_0-5
Sample Location: BOSTON, MA
Date Collected: 12/20/23 08:00
Date Received: 12/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.08	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Arsenic, Total	2.53		mg/kg	0.415	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Barium, Total	18.0		mg/kg	0.415	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Beryllium, Total	0.262		mg/kg	0.208	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Cadmium, Total	ND		mg/kg	0.415	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Chromium, Total	7.23		mg/kg	0.415	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Lead, Total	44.9		mg/kg	2.08	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Mercury, Total	ND		mg/kg	0.085	--	1	12/22/23 06:00	12/27/23 17:31	EPA 7471B	97,7471B	GMG
Nickel, Total	5.79		mg/kg	1.04	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Selenium, Total	ND		mg/kg	2.08	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Silver, Total	ND		mg/kg	0.415	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Thallium, Total	ND		mg/kg	2.08	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Vanadium, Total	12.4		mg/kg	0.415	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL
Zinc, Total	27.1		mg/kg	2.08	--	1	12/22/23 04:42	12/27/23 10:49	EPA 3050B	97,6010D	DHL

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1866997-1										
Antimony, Total	ND		mg/kg	2.00	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Arsenic, Total	ND		mg/kg	0.400	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Barium, Total	ND		mg/kg	0.400	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Beryllium, Total	ND		mg/kg	0.200	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Cadmium, Total	ND		mg/kg	0.400	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Chromium, Total	ND		mg/kg	0.400	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Lead, Total	ND		mg/kg	2.00	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Nickel, Total	ND		mg/kg	1.00	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Selenium, Total	ND		mg/kg	2.00	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Silver, Total	ND		mg/kg	0.400	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Thallium, Total	ND		mg/kg	2.00	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Vanadium, Total	ND		mg/kg	0.400	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL
Zinc, Total	ND		mg/kg	2.00	--	1	12/22/23 04:42	12/27/23 09:13	97,6010D	DHL

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1866998-1										
Mercury, Total	ND		mg/kg	0.083	--	1	12/22/23 06:00	12/27/23 16:26	97,7471B	GMG

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1866997-2 WG1866997-3 SRM Lot Number: D122-540								
Antimony, Total	168		154		6-194	9		30
Arsenic, Total	100		95		81-119	5		30
Barium, Total	101		88		83-117	14		30
Beryllium, Total	114		91		83-117	22		30
Cadmium, Total	110		92		83-117	18		30
Chromium, Total	113		101		82-118	11		30
Lead, Total	94		92		83-117	2		30
Nickel, Total	104		98		83-117	6		30
Selenium, Total	103		95		81-119	8		30
Silver, Total	102		99		80-120	3		30
Thallium, Total	110		90		81-119	20		30
Vanadium, Total	98		91		80-120	7		30
Zinc, Total	98		94		82-119	4		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1866998-2 WG1866998-3 SRM Lot Number: D122-540								
Mercury, Total	85		76		73-127	11		30

INORGANICS
&
MISCELLANEOUS

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

SAMPLE RESULTS

Lab ID:	L2375330-01	Date Collected:	12/20/23 08:00
Client ID:	HA23-TP10(ALT)_0-5	Date Received:	12/20/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	12/27/23 15:32	1,1030	GEF

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

SAMPLE RESULTS

Lab ID: L2375330-01
Client ID: HA23-TP10(ALT)_0-5
Sample Location: BOSTON, MA

Date Collected: 12/20/23 08:00
Date Received: 12/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	56		umhos/cm	10	--	1	-	12/27/23 07:11	1,9050A	CAR
Solids, Total	90.6		%	0.100	NA	1	-	12/22/23 08:42	121,2540G	ROI
pH (H)	8.45		SU	-	NA	1	-	12/27/23 05:45	1,9045D	CAR
Cyanide, Reactive	ND		mg/kg	130	--	1	12/28/23 13:15	12/28/23 15:24	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/28/23 13:15	12/28/23 15:39	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2375330

Project Number: 134206-012 **Report Date:** 12/28/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1869005-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	12/28/23 13:15	12/28/23 15:20	125,7.3	JLB
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1869008-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	12/28/23 13:15	12/28/23 15:35	125,7.3	JLB

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1868327-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1868330-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1869005-2								
Cyanide, Reactive	94		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1869008-2								
Sulfide, Reactive	111		-		60-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2375330

Report Date: 12/28/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1868327-2 QC Sample: L2375330-01 Client ID: HA23-TP10(ALT)_0-5						
pH (H)	8.45	8.58	SU	2		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1868330-2 QC Sample: L2375330-01 Client ID: HA23-TP10(ALT)_0-5						
Specific Conductance @ 25 C	56	57	umhos/cm	2		20

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2375330
Report Date: 12/28/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2375330-01A	Vial MeOH preserved	A	NA		5.0	Y	Absent		MCP-8260HLW-21(14)
L2375330-01B	Vial water preserved	A	NA		5.0	Y	Absent	20-DEC-23 18:43	MCP-8260HLW-21(14)
L2375330-01C	Vial water preserved	A	NA		5.0	Y	Absent	20-DEC-23 18:43	MCP-8260HLW-21(14)
L2375330-01D	Plastic 2oz unpreserved for TS	A	NA		5.0	Y	Absent		TS(7)
L2375330-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.0	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2375330-01F	Glass 120ml/4oz unpreserved/No Headspace	A	NA		5.0	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2375330-01G	Vial Large Septa unpreserved (4oz)	A	NA		5.0	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2375330-01H	Glass 250ml/8oz unpreserved	A	NA		5.0	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2375330-01I	Glass 500ml/16oz unpreserved	A	NA		5.0	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2375330
Project Number:	134206-012	**Report Date:**	12/28/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 12/20/23

ALPHA Job # L2375330

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project # 134206-012
(Use Project name as Project #) ☐
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre-approved) # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth (ft)	VOCs	SVOCs	MCP 14 Metals	PCBs	TPH	Waste Characteristics (1)	Herbicides / Pesticides		Sample Specific Comments	Total # Bottles
75330- 01	HA23-TP10(ALT)_0-5	12/20/23	08:00	SO	JDB	0-5	X	X	X	X	X	X				9
Container Type							A	A	A	A	A	A	A			
Preservative							F	A	A	A	A	A	A			

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	12/20/23 - 14:15	[signature] Plum AAL	12/20/23 1630
[signature]	12/20/23 1818	[signature]	12/20 1818

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2375330
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1868633-5	**Lab File ID**	: V29231226N05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 12/26/23 15:44

Client Sample No.	Lab Sample ID	Analysis Date
WG1868633-3LCS	WG1868633-3	12/26/23 14:41
WG1868633-4LCSD	WG1868633-4	12/26/23 15:02
HA23-TP10(ALT)_0-5	L2375330-01	12/26/23 19:20

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2375330
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/26/23 14:20
Lab File ID	: V29231226N01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1868633-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	97	0
Dichlorodifluoromethane	0.332	0.324	-	2.4	20	89	0
Chloromethane	0.42	0.47	-	-11.9	20	104	0
Vinyl chloride	0.377	0.411	-	-9	20	101	0
Bromomethane	0.185	0.182	-	1.6	20	101	0
Chloroethane	0.206	0.237	-	-15	20	106	0
Trichlorofluoromethane	0.367	0.4	-	-9	20	99	0
Ethyl ether	0.13	0.133	-	-2.3	20	96	0
1,1-Dichloroethene	0.225	0.235	-	-4.4	20	97	0
Carbon disulfide	0.786	0.786	-	0	20	91	0
Freon-113	0.237	0.26	-	-9.7	20	97	0
Acrolein	40	41.024	-	-2.6	20	101	0
Methylene chloride	40	40.497	-	-1.2	20	94	0
Acetone	40	37.682	-	5.8	20	94	0
trans-1,2-Dichloroethene	0.255	0.263	-	-3.1	20	96	0
Methyl acetate	0.254	0.24	-	5.5	20	99	0
Methyl tert-butyl ether	0.671	0.68	-	-1.3	20	91	0
tert-Butyl alcohol	0.045	0.031	-	31.1*	20	72	-.02
Diisopropyl ether	1.023	1.383	-	-35.2*	20	121	0
1,1-Dichloroethane	0.563	0.61	-	-8.3	20	101	0
Halothane	0.193	0.191	-	1	20	91	0
Acrylonitrile	0.108	0.107	-	0.9	20	99	0
Ethyl tert-butyl ether	0.907	0.959	-	-5.7	20	93	-.01
Vinyl acetate	0.658	0.66	-	-0.3	20	92	0
cis-1,2-Dichloroethene	0.289	0.28	-	3.1	20	89	0
2,2-Dichloropropane	0.35	0.308	-	12	20	82	-.01
Bromochloromethane	0.134	0.124	-	7.5	20	88	0
Cyclohexane	0.555	0.66	-	-18.9	20	104	0
Chloroform	0.485	0.472	-	2.7	20	90	0
Ethyl acetate	0.302	0.283	-	6.3	20	87	0
Carbon tetrachloride	0.313	0.318	-	-1.6	20	91	-.01
Tetrahydrofuran	0.112	0.095	-	15.2	20	85	0
Dibromofluoromethane	0.252	0.255	-	-1.2	20	98	0
1,1,1-Trichloroethane	0.381	0.399	-	-4.7	20	90	0
2-Butanone	0.151	0.135	-	10.6	20	88	0
1,1-Dichloropropene	0.343	0.38	-	-10.8	20	96	0
Benzene	0.99	1.039	-	-4.9	20	93	0
tert-Amyl methyl ether	0.633	0.571	-	9.8	20	81	0
1,2-Dichloroethane-d4	0.321	0.332	-	-3.4	20	103	0
1,2-Dichloroethane	0.417	0.432	-	-3.6	20	96	0
Methyl cyclohexane	0.428	0.472	-	-10.3	20	95	0
Trichloroethene	0.26	0.274	-	-5.4	20	91	0
Dibromomethane	0.162	0.154	-	4.9	20	89	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2375330
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/26/23 14:20
Lab File ID	: V29231226N01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1868633-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.306	0.332	-	-8.5	20	97	0
2-Chloroethyl vinyl ether	0.184	0.177	-	3.8	20	87	-.02
Bromodichloromethane	0.336	0.341	-	-1.5	20	90	0
1,4-Dioxane	0.00323	0.00251*	-	22.3*	20	74	0
cis-1,3-Dichloropropene	0.366	0.37	-	-1.1	20	86	0
Chlorobenzene-d5	1	1	-	0	20	97	0
Toluene-d8	1.302	1.315	-	-1	20	98	0
Toluene	0.875	0.872	-	0.3	20	91	0
4-Methyl-2-pentanone	0.155	0.138	-	11	20	80	0
Tetrachloroethene	0.338	0.342	-	-1.2	20	88	0
trans-1,3-Dichloropropene	0.445	0.415	-	6.7	20	83	0
Ethyl methacrylate	0.351	0.332	-	5.4	20	85	0
1,1,2-Trichloroethane	0.248	0.245	-	1.2	20	90	0
Chlorodibromomethane	0.307	0.304	-	1	20	86	0
1,3-Dichloropropane	0.508	0.514	-	-1.2	20	90	0
1,2-Dibromoethane	0.274	0.267	-	2.6	20	85	0
2-Hexanone	0.275	0.251	-	8.7	20	83	0
Chlorobenzene	0.945	0.933	-	1.3	20	88	0
Ethylbenzene	1.663	1.704	-	-2.5	20	93	0
1,1,1,2-Tetrachloroethane	40	35.266	-	11.8	20	86	0
p/m Xylene	0.625	0.634	-	-1.4	20	90	0
o Xylene	0.606	0.615	-	-1.5	20	91	0
Styrene	0.997	1.03	-	-3.3	20	89	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	99	0
Bromoform	0.388	0.334	-	13.9	20	78	0
Isopropylbenzene	3.156	3.258	-	-3.2	20	91	0
4-Bromofluorobenzene	0.963	0.989	-	-2.7	20	100	0
Bromobenzene	0.786	0.745	-	5.2	20	86	0
n-Propylbenzene	3.818	4.026	-	-5.4	20	94	0
1,4-Dichlorobutane	1.245	1.295	-	-4	20	95	0
1,1,2,2-Tetrachloroethane	0.713	0.714	-	-0.1	20	88	0
4-Ethyltoluene	3.149	3.295	-	-4.6	20	92	0
2-Chlorotoluene	2.37	2.387	-	-0.7	20	91	0
1,3,5-Trimethylbenzene	2.79	2.845	-	-2	20	90	0
1,2,3-Trichloropropane	0.642	0.596	-	7.2	20	85	0
trans-1,4-Dichloro-2-buten	0.263	0.255	-	3	20	93	0
4-Chlorotoluene	2.434	2.498	-	-2.6	20	92	0
tert-Butylbenzene	2.31	2.341	-	-1.3	20	91	0
1,2,4-Trimethylbenzene	2.69	2.786	-	-3.6	20	92	0
sec-Butylbenzene	3.438	3.599	-	-4.7	20	92	0
p-Isopropyltoluene	2.933	3.052	-	-4.1	20	92	0
1,3-Dichlorobenzene	1.526	1.485	-	2.7	20	88	0
1,4-Dichlorobenzene	1.552	1.487	-	4.2	20	88	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2375330
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Instrument ID	: VOA129	**Calibration Date**	: 12/26/23 14:20
Lab File ID	: V29231226N01	**Init. Calib. Date(s)**	: 12/19/23 12/20/23
Sample No	: WG1868633-2	**Init. Calib. Times**	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.805	1.869	-	-3.5	20	91	0
n-Butylbenzene	2.679	2.917	-	-8.9	20	95	0
1,2-Dichlorobenzene	1.438	1.379	-	4.1	20	88	0
1,2,4,5-Tetramethylbenzene	2.739	2.876	-	-5	20	92	0
1,2-Dibromo-3-chloropropan	0.115	0.088	-	23.5*	20	73	0
1,3,5-Trichlorobenzene	1.142	1.125	-	1.5	20	91	0
Hexachlorobutadiene	0.554	0.51	-	7.9	20	83	0
1,2,4-Trichlorobenzene	1.012	1.023	-	-1.1	20	91	0
Naphthalene	2.453	2.228	-	9.2	20	83	0
1,2,3-Trichlorobenzene	0.973	0.92	-	5.4	20	88	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2376075
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/03/24

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376075
Report Date: 01/03/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2376075-01	HA23-TP12_0-4.1	SOIL	BOSTON, MA	12/19/23 10:15	12/19/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376075
Project Number:	134206-012	**Report Date:**	01/03/24

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376075
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376075
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 01/03/24

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376075

Report Date: 01/03/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376075
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376075-01
Client ID: HA23-TP12_0-4.1
Sample Location: BOSTON, MA

Date Collected: 12/19/23 10:15
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 12/29/23 05:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/03/24 02:20	01/03/24 08:26	EPA 3015	1,6010D	DMC

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376075

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1870074-1										
Lead, TCLP	ND		mg/l	0.500	--	1	01/03/24 02:20	01/03/24 08:17	1,6010D	DMC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 12/28/23 05:20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376075

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1870074-2								
Lead, TCLP	91		-		75-125	-		20

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376075
Report Date: 01/03/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376075-01H	Glass 250ml/8oz unpreserved	C	NA		2.3	Y	Absent		-
L2376075-01X	Plastic 120ml HNO3 preserved Extracts	C	NA		2.3	Y	Absent		PB-CI(180)
L2376075-01X9	Tumble Vessel	C	NA		2.3	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376075
Project Number:	134206-012	**Report Date:**	01/03/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376075
Project Number:	134206-012	**Report Date:**	01/03/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376075
Project Number:	134206-012	**Report Date:**	01/03/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376075
Project Number:	134206-012	**Report Date:**	01/03/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2376075 12/28 CEC

ALPHA

CHAIN OF CUSTODY

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 12/19/23

ALPHA Job # ~~L2375037~~

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name:	Northeastern University - New Arena
Project Location:	Boston, MA
Project #	134206-012
(Use Project name as Project #)	☐
Project Manager:	K. Tripp
ALPHAQuote #:	25256

Turn-Around Time

☑ Standard
☐ Rush (only if pre-approved)
Due Date:
# of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

&A Information

&A Client: Northeastern University
&A Address: 465 Medford Street, Suite 2200
oston, MA 02129
Phone: 617-886-7400
Fax: JBitney@haleyaldrich.com
Email: CWorthy@haleyaldrich.com

e samples have been previously analyzed by Alpha
her project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

ase specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	~~VOCs~~	~~SVOCs~~	~~MCP 14 Metals~~	~~PCBs~~	~~TPH~~	~~Waste Characteristics (1)~~	~~Herbicides / Pesticides~~	Prepc, Pb-Cl	Sample Specific Comments	Total Bottles
~~25037~~ -01 76075	HA23-TP12_0-4.1	12/19/23	10:15	SO	JDB	0-4.1	X	X	X	X	X	X		X		9

vative Code:
ne
t
HO_3
SO_4
OH
OH
HSO_4
S_2O_3
n Ac/NaOH
er

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
Jack Bitney	12/19/23 - 14:36	[signature] AAL	12-19-23 1630
[signature] AAL	12-19-23 1825	[signature]	12/19 1825

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

ANALYTICAL REPORT

Lab Number:	L2376095
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/03/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2376095-01	HA24-A3_0-5	SOIL	BOSTON, MA	12/26/23 08:30	12/26/23
L2376095-02	HA24-A3_5-10	SOIL	BOSTON, MA	12/26/23 08:40	12/26/23
L2376095-03	HA24-A3_10-15	SOIL	BOSTON, MA	12/26/23 08:50	12/26/23
L2376095-04	HA24-B4_0-5	SOIL	BOSTON, MA	12/26/23 10:30	12/26/23
L2376095-05	HA24-B4_5-10	SOIL	BOSTON, MA	12/26/23 10:40	12/26/23
L2376095-06	HA24-B4_10-15	SOIL	BOSTON, MA	12/26/23 10:50	12/26/23
L2376095-07	HA24-TP2_0-5	SOIL	BOSTON, MA	12/26/23 11:20	12/26/23
L2376095-08	HA24-TP2_5-10	SOIL	BOSTON, MA	12/26/23 11:40	12/26/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L2376095-06: The sample identified as "HA24-B4_5-15" on the chain of custody was identified as "HA24-B4_10-15" on the container label. At the client's request, the sample is reported as "HA24-B4_10-15".

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2376095-01 through -08: Initial calibration utilized a quadratic fit for: chloroethane, 1,1-dichloropropene, styrene, 1,2,4,5-tetramethylbenzene

L2376095-07R: Initial calibration utilized a quadratic fit for: 1,1,1,2-tetrachloroethane

In reference to question H:

L2376095-07: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (31%) was below the acceptance criteria; however, re-analysis achieved the following result: 1,4-dichlorobenzene-d4 (39%). The results of both analyses are reported; however, since the IS response was below method criteria (but not <20% of applicable calibration standard area counts), all associated compounds are considered to have a potentially high bias.

L2376095-01 through -08: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromodichloromethane (0.2448), 1,4-dioxane (0.0023)

Average Response Factor: 1,4-dioxane

Verification: ethyl ether (138%)

L2376095-07R: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: trichloroethene (0.1904), bromodichloromethane (0.2472), 1,4-dioxane (0.0032), cis-1,3-dichloropropene (0.2490)

Average Response Factor: 1,4-dioxane

Verification: dichlorodifluoromethane (62%)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative (continued)

L2376095-01 through -08: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2376095-01D and -04D: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L2376095-01D and -04D: One or more of the target analytes did not achieve the requested CAM reporting limits.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 01/03/24

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1870137-3	1,2-Dibromo-3-chloropropane	LCS	67	70-130	07	potential low bias
8260D	Batch QC	WG1870137-3	Diisopropyl Ether	LCS	139	70-130	07	potential high bias
8260D	Batch QC	WG1870137-3	1,4-Dioxane	LCS	64	70-130	07	potential low bias
8260D	Batch QC	WG1870137-4	Dichlorodifluoromethane	LCSD	69	70-130	07	potential low bias
8260D	Batch QC	WG1870137-4	1,2-Dibromo-3-chloropropane	LCSD	25	20	07	non-directional bias
8260D	Batch QC	WG1870177-3	Trichlorofluoromethane	LCS	64	70-130	06	potential low bias
8260D	Batch QC	WG1870177-3	Bromomethane	LCS	63	70-130	06	potential low bias
8260D	Batch QC	WG1870177-3	Chloroethane	LCS	62	70-130	06	potential low bias
8260D	Batch QC	WG1870177-3	Dichlorodifluoromethane	LCS	53	70-130	06	potential low bias
8260D	Batch QC	WG1870177-4	Bromomethane	LCSD	69	70-130	06	potential low bias
8260D	Batch QC	WG1870177-4	Chloroethane	LCSD	67	70-130	06	potential low bias
8260D	Batch QC	WG1870177-4	Dichlorodifluoromethane	LCSD	22	20	06	non-directional bias
8260D	Batch QC	WG1870177-4	Dichlorodifluoromethane	LCSD	66	70-130	06	potential low bias
8260D	Batch QC	WG1870202-3	Chloroethane	LCS	66	70-130	01-05,07-08	potential low bias
8260D	Batch QC	WG1870202-3	Dichlorodifluoromethane	LCS	63	70-130	01-05,07-08	potential low bias
8260D	Batch QC	WG1870202-4	Trichlorofluoromethane	LCSD	61	70-130	01-05,07-08	potential low bias
8260D	Batch QC	WG1870202-4	Bromomethane	LCSD	62	70-130	01-05,07-08	potential low bias
8260D	Batch QC	WG1870202-4	Chloroethane	LCSD	62	70-130	01-05,07-08	potential low bias
8260D	Batch QC	WG1870202-4	Dichlorodifluoromethane	LCSD	59	70-130	01-05,07-08	potential low bias
8260D	Batch QC	WG1870202-4	Methyl ethyl ketone	LCSD	136	70-130	01-05,07-08	potential high bias
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1869193-3	4-Chloroaniline	LCSD	37	40-140	01-08	potential low bias

ORGANICS

VOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01
Client ID: HA24-A3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/29/23 21:22
Analyst: JIC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.0	--	1
1,1-Dichloroethane	ND		ug/kg	0.61	--	1
Chloroform	ND		ug/kg	0.91	--	1
Carbon tetrachloride	ND		ug/kg	0.61	--	1
1,2-Dichloropropane	ND		ug/kg	0.61	--	1
Dibromochloromethane	ND		ug/kg	0.61	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.61	--	1
Tetrachloroethene	ND		ug/kg	0.30	--	1
Chlorobenzene	ND		ug/kg	0.30	--	1
Trichlorofluoromethane	ND		ug/kg	2.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.61	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.30	--	1
Bromodichloromethane	ND		ug/kg	0.30	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.61	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.30	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.30	--	1
1,1-Dichloropropene	ND		ug/kg	0.30	--	1
Bromoform	ND		ug/kg	2.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.30	--	1
Benzene	ND		ug/kg	0.30	--	1
Toluene	ND		ug/kg	0.61	--	1
Ethylbenzene	ND		ug/kg	0.61	--	1
Chloromethane	ND		ug/kg	2.4	--	1
Bromomethane	ND		ug/kg	1.2	--	1
Vinyl chloride	ND		ug/kg	0.61	--	1
Chloroethane	ND		ug/kg	1.2	--	1
1,1-Dichloroethene	ND		ug/kg	0.61	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.91	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01 Date Collected: 12/26/23 08:30

Client ID: HA24-A3_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.30	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.2	--	1
Methyl tert butyl ether	ND		ug/kg	1.2	--	1
p/m-Xylene	ND		ug/kg	1.2	--	1
o-Xylene	ND		ug/kg	0.61	--	1
Xylenes, Total	ND		ug/kg	0.61	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.61	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.61	--	1
Dibromomethane	ND		ug/kg	1.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.2	--	1
Styrene	ND		ug/kg	0.61	--	1
Dichlorodifluoromethane	ND		ug/kg	6.1	--	1
Acetone	ND		ug/kg	15	--	1
Carbon disulfide	ND		ug/kg	6.1	--	1
Methyl ethyl ketone	ND		ug/kg	6.1	--	1
Methyl isobutyl ketone	ND		ug/kg	6.1	--	1
2-Hexanone	ND		ug/kg	6.1	--	1
Bromochloromethane	ND		ug/kg	1.2	--	1
Tetrahydrofuran	ND		ug/kg	2.4	--	1
2,2-Dichloropropane	ND		ug/kg	1.2	--	1
1,2-Dibromoethane	ND		ug/kg	0.61	--	1
1,3-Dichloropropane	ND		ug/kg	1.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.30	--	1
Bromobenzene	ND		ug/kg	1.2	--	1
n-Butylbenzene	ND		ug/kg	0.61	--	1
sec-Butylbenzene	ND		ug/kg	0.61	--	1
tert-Butylbenzene	ND		ug/kg	1.2	--	1
o-Chlorotoluene	ND		ug/kg	1.2	--	1
p-Chlorotoluene	ND		ug/kg	1.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.8	--	1
Hexachlorobutadiene	ND		ug/kg	2.4	--	1
Isopropylbenzene	ND		ug/kg	0.61	--	1
p-Isopropyltoluene	ND		ug/kg	0.61	--	1
Naphthalene	ND		ug/kg	2.4	--	1
n-Propylbenzene	ND		ug/kg	0.61	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01 Date Collected: 12/26/23 08:30

Client ID: HA24-A3_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.2	--	1
Diethyl ether	ND		ug/kg	1.2	--	1
Diisopropyl Ether	ND		ug/kg	1.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.2	--	1
1,4-Dioxane	ND		ug/kg	49	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	100		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02
Client ID: HA24-A3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/29/23 21:43
Analyst: JIC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.96	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.96	--	1
1,2-Dichloropropane	ND		ug/kg	0.96	--	1
Dibromochloromethane	ND		ug/kg	0.96	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.96	--	1
Tetrachloroethene	ND		ug/kg	0.48	--	1
Chlorobenzene	ND		ug/kg	0.48	--	1
Trichlorofluoromethane	ND		ug/kg	3.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.96	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	--	1
Bromodichloromethane	ND		ug/kg	0.48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.96	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	--	1
1,1-Dichloropropene	ND		ug/kg	0.48	--	1
Bromoform	ND		ug/kg	3.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Benzene	ND		ug/kg	0.48	--	1
Toluene	ND		ug/kg	0.96	--	1
Ethylbenzene	ND		ug/kg	0.96	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.96	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.96	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02 Date Collected: 12/26/23 08:40

Client ID: HA24-A3_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.48	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.96	--	1
Xylenes, Total	ND		ug/kg	0.96	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.96	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.96	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.96	--	1
Dichlorodifluoromethane	ND		ug/kg	9.6	--	1
Acetone	ND		ug/kg	24	--	1
Carbon disulfide	ND		ug/kg	9.6	--	1
Methyl ethyl ketone	ND		ug/kg	9.6	--	1
Methyl isobutyl ketone	ND		ug/kg	9.6	--	1
2-Hexanone	ND		ug/kg	9.6	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.96	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.96	--	1
sec-Butylbenzene	ND		ug/kg	0.96	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.96	--	1
p-Isopropyltoluene	ND		ug/kg	0.96	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.96	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02 Date Collected: 12/26/23 08:40

Client ID: HA24-A3_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	76	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03
Client ID: HA24-A3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/29/23 22:03
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.68	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.68	--	1
1,2-Dichloropropane	ND		ug/kg	0.68	--	1
Dibromochloromethane	ND		ug/kg	0.68	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.68	--	1
Tetrachloroethene	ND		ug/kg	0.34	--	1
Chlorobenzene	ND		ug/kg	0.34	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.68	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.34	--	1
Bromodichloromethane	ND		ug/kg	0.34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.68	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.34	--	1
1,1-Dichloropropene	ND		ug/kg	0.34	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Benzene	ND		ug/kg	0.34	--	1
Toluene	ND		ug/kg	0.68	--	1
Ethylbenzene	ND		ug/kg	0.68	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.68	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.68	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03 Date Collected: 12/26/23 08:50

Client ID: HA24-A3_10-15 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.34	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.68	--	1
Xylenes, Total	ND		ug/kg	0.68	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.68	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.68	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.68	--	1
Dichlorodifluoromethane	ND		ug/kg	6.8	--	1
Acetone	ND		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.8	--	1
Methyl ethyl ketone	ND		ug/kg	6.8	--	1
Methyl isobutyl ketone	ND		ug/kg	6.8	--	1
2-Hexanone	ND		ug/kg	6.8	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.68	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.68	--	1
sec-Butylbenzene	ND		ug/kg	0.68	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	ND		ug/kg	0.68	--	1
p-Isopropyltoluene	ND		ug/kg	0.68	--	1
Naphthalene	ND		ug/kg	2.7	--	1
n-Propylbenzene	ND		ug/kg	0.68	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03 Date Collected: 12/26/23 08:50

Client ID: HA24-A3_10-15 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	54	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	86		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	102		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04
Client ID: HA24-B4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/29/23 22:24
Analyst: JIC
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.71	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.71	--	1
1,2-Dichloropropane	ND		ug/kg	0.71	--	1
Dibromochloromethane	ND		ug/kg	0.71	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.71	--	1
Tetrachloroethene	ND		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.71	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.71	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.71	--	1
Ethylbenzene	ND		ug/kg	0.71	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.71	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.71	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04 Date Collected: 12/26/23 10:30

Client ID: HA24-B4_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.36	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.71	--	1
Xylenes, Total	ND		ug/kg	0.71	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.71	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.71	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.71	--	1
Dichlorodifluoromethane	ND		ug/kg	7.1	--	1
Acetone	ND		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.1	--	1
Methyl ethyl ketone	ND		ug/kg	7.1	--	1
Methyl isobutyl ketone	ND		ug/kg	7.1	--	1
2-Hexanone	ND		ug/kg	7.1	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.71	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.71	--	1
sec-Butylbenzene	ND		ug/kg	0.71	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.71	--	1
p-Isopropyltoluene	ND		ug/kg	0.71	--	1
Naphthalene	5.9		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.71	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04 Date Collected: 12/26/23 10:30

Client ID: HA24-B4_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	57	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	105		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05
Client ID: HA24-B4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/29/23 22:45
Analyst: JIC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.87	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.87	--	1
1,2-Dichloropropane	ND		ug/kg	0.87	--	1
Dibromochloromethane	ND		ug/kg	0.87	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.87	--	1
Tetrachloroethene	0.44		ug/kg	0.43	--	1
Chlorobenzene	ND		ug/kg	0.43	--	1
Trichlorofluoromethane	ND		ug/kg	3.5	--	1
1,2-Dichloroethane	ND		ug/kg	0.87	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.43	--	1
Bromodichloromethane	ND		ug/kg	0.43	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.87	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.43	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.43	--	1
1,1-Dichloropropene	ND		ug/kg	0.43	--	1
Bromoform	ND		ug/kg	3.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.43	--	1
Benzene	ND		ug/kg	0.43	--	1
Toluene	ND		ug/kg	0.87	--	1
Ethylbenzene	ND		ug/kg	0.87	--	1
Chloromethane	ND		ug/kg	3.5	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.87	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.87	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05 Date Collected: 12/26/23 10:40

Client ID: HA24-B4_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.43	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	2.8		ug/kg	1.7	--	1
o-Xylene	1.2		ug/kg	0.87	--	1
Xylenes, Total	4.0		ug/kg	0.87	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.87	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.87	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.87	--	1
Dichlorodifluoromethane	ND		ug/kg	8.7	--	1
Acetone	ND		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.7	--	1
Methyl ethyl ketone	ND		ug/kg	8.7	--	1
Methyl isobutyl ketone	ND		ug/kg	8.7	--	1
2-Hexanone	ND		ug/kg	8.7	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.5	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.87	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.43	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.87	--	1
sec-Butylbenzene	ND		ug/kg	0.87	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	--	1
Hexachlorobutadiene	ND		ug/kg	3.5	--	1
Isopropylbenzene	ND		ug/kg	0.87	--	1
p-Isopropyltoluene	ND		ug/kg	0.87	--	1
Naphthalene	5.7		ug/kg	3.5	--	1
n-Propylbenzene	ND		ug/kg	0.87	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05 Date Collected: 12/26/23 10:40

Client ID: HA24-B4_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	69	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06
Client ID: HA24-B4_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 01/02/24 16:34
Analyst: JIC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.89	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.89	--	1
1,2-Dichloropropane	ND		ug/kg	0.89	--	1
Dibromochloromethane	ND		ug/kg	0.89	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.89	--	1
Tetrachloroethene	ND		ug/kg	0.44	--	1
Chlorobenzene	ND		ug/kg	0.44	--	1
Trichlorofluoromethane	ND		ug/kg	3.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.89	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	--	1
Bromodichloromethane	ND		ug/kg	0.44	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.89	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	--	1
1,1-Dichloropropene	ND		ug/kg	0.44	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Benzene	ND		ug/kg	0.44	--	1
Toluene	ND		ug/kg	0.89	--	1
Ethylbenzene	ND		ug/kg	0.89	--	1
Chloromethane	ND		ug/kg	3.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.89	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.89	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06 Date Collected: 12/26/23 10:50

Client ID: HA24-B4_10-15 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.44	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.89	--	1
Xylenes, Total	ND		ug/kg	0.89	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.89	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.89	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.89	--	1
Dichlorodifluoromethane	ND		ug/kg	8.9	--	1
Acetone	220		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.9	--	1
Methyl ethyl ketone	65		ug/kg	8.9	--	1
Methyl isobutyl ketone	ND		ug/kg	8.9	--	1
2-Hexanone	ND		ug/kg	8.9	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.89	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.89	--	1
sec-Butylbenzene	ND		ug/kg	0.89	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	--	1
Hexachlorobutadiene	ND		ug/kg	3.6	--	1
Isopropylbenzene	ND		ug/kg	0.89	--	1
p-Isopropyltoluene	ND		ug/kg	0.89	--	1
Naphthalene	ND		ug/kg	3.6	--	1
n-Propylbenzene	ND		ug/kg	0.89	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06 Date Collected: 12/26/23 10:50

Client ID: HA24-B4_10-15 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	71	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	106		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/29/23 23:26
Analyst: JIC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.3	--	1
1,1-Dichloroethane	ND		ug/kg	1.7	--	1
Chloroform	ND		ug/kg	2.5	--	1
Carbon tetrachloride	ND		ug/kg	1.7	--	1
1,2-Dichloropropane	ND		ug/kg	1.7	--	1
Dibromochloromethane	ND		ug/kg	1.7	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	--	1
Tetrachloroethene	ND		ug/kg	0.83	--	1
Chlorobenzene	ND		ug/kg	0.83	--	1
Trichlorofluoromethane	ND		ug/kg	6.6	--	1
1,2-Dichloroethane	ND		ug/kg	1.7	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.83	--	1
Bromodichloromethane	ND		ug/kg	0.83	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.7	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.83	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.83	--	1
1,1-Dichloropropene	ND		ug/kg	0.83	--	1
Bromoform	ND		ug/kg	6.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.83	--	1
Benzene	ND		ug/kg	0.83	--	1
Toluene	ND		ug/kg	1.7	--	1
Ethylbenzene	ND		ug/kg	1.7	--	1
Chloromethane	ND		ug/kg	6.6	--	1
Bromomethane	ND		ug/kg	3.3	--	1
Vinyl chloride	ND		ug/kg	1.7	--	1
Chloroethane	ND		ug/kg	3.3	--	1
1,1-Dichloroethene	ND		ug/kg	1.7	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.5	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 Date Collected: 12/26/23 11:20

Client ID: HA24-TP2_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.83	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.3	--	1
Methyl tert butyl ether	ND		ug/kg	3.3	--	1
p/m-Xylene	ND		ug/kg	3.3	--	1
o-Xylene	ND		ug/kg	1.7	--	1
Xylenes, Total	ND		ug/kg	1.7	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.7	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.7	--	1
Dibromomethane	ND		ug/kg	3.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.3	--	1
Styrene	ND		ug/kg	1.7	--	1
Dichlorodifluoromethane	ND		ug/kg	17	--	1
Acetone	ND		ug/kg	42	--	1
Carbon disulfide	ND		ug/kg	17	--	1
Methyl ethyl ketone	ND		ug/kg	17	--	1
Methyl isobutyl ketone	ND		ug/kg	17	--	1
2-Hexanone	ND		ug/kg	17	--	1
Bromochloromethane	ND		ug/kg	3.3	--	1
Tetrahydrofuran	ND		ug/kg	6.6	--	1
2,2-Dichloropropane	ND		ug/kg	3.3	--	1
1,2-Dibromoethane	ND		ug/kg	1.7	--	1
1,3-Dichloropropane	ND		ug/kg	3.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.83	--	1
Bromobenzene	ND		ug/kg	3.3	--	1
n-Butylbenzene	ND		ug/kg	1.7	--	1
sec-Butylbenzene	ND		ug/kg	1.7	--	1
tert-Butylbenzene	ND		ug/kg	3.3	--	1
o-Chlorotoluene	ND		ug/kg	3.3	--	1
p-Chlorotoluene	ND		ug/kg	3.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	--	1
Hexachlorobutadiene	ND		ug/kg	6.6	--	1
Isopropylbenzene	ND		ug/kg	1.7	--	1
p-Isopropyltoluene	ND		ug/kg	1.7	--	1
Naphthalene	ND		ug/kg	6.6	--	1
n-Propylbenzene	ND		ug/kg	1.7	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 Date Collected: 12/26/23 11:20

Client ID: HA24-TP2_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	3.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.3	--	1
Diethyl ether	ND		ug/kg	3.3	--	1
Diisopropyl Ether	ND		ug/kg	3.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.3	--	1
1,4-Dioxane	ND		ug/kg	130	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	104		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 R
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 16:17
Analyst: JIC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	10	--	1
1,1-Dichloroethane	ND		ug/kg	2.1	--	1
Chloroform	ND		ug/kg	3.1	--	1
Carbon tetrachloride	ND		ug/kg	2.1	--	1
1,2-Dichloropropane	ND		ug/kg	2.1	--	1
Dibromochloromethane	ND		ug/kg	2.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	2.1	--	1
Tetrachloroethene	ND		ug/kg	1.0	--	1
Chlorobenzene	ND		ug/kg	1.0	--	1
Trichlorofluoromethane	ND		ug/kg	8.3	--	1
1,2-Dichloroethane	ND		ug/kg	2.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	1.0	--	1
Bromodichloromethane	ND		ug/kg	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/kg	2.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
1,3-Dichloropropene, Total	ND		ug/kg	1.0	--	1
1,1-Dichloropropene	ND		ug/kg	1.0	--	1
Bromoform	ND		ug/kg	8.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	--	1
Benzene	ND		ug/kg	1.0	--	1
Toluene	ND		ug/kg	2.1	--	1
Ethylbenzene	ND		ug/kg	2.1	--	1
Chloromethane	ND		ug/kg	8.3	--	1
Bromomethane	ND		ug/kg	4.1	--	1
Vinyl chloride	ND		ug/kg	2.1	--	1
Chloroethane	ND		ug/kg	4.1	--	1
1,1-Dichloroethene	ND		ug/kg	2.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	3.1	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 R Date Collected: 12/26/23 11:20

Client ID: HA24-TP2_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichlorobenzene	ND		ug/kg	4.1	--	1
1,3-Dichlorobenzene	ND		ug/kg	4.1	--	1
1,4-Dichlorobenzene	ND		ug/kg	4.1	--	1
Methyl tert butyl ether	ND		ug/kg	4.1	--	1
p/m-Xylene	ND		ug/kg	4.1	--	1
o-Xylene	ND		ug/kg	2.1	--	1
Xylenes, Total	ND		ug/kg	2.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	2.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	2.1	--	1
Dibromomethane	ND		ug/kg	4.1	--	1
1,2,3-Trichloropropane	ND		ug/kg	4.1	--	1
Styrene	ND		ug/kg	2.1	--	1
Dichlorodifluoromethane	ND		ug/kg	21	--	1
Acetone	ND		ug/kg	52	--	1
Carbon disulfide	ND		ug/kg	21	--	1
Methyl ethyl ketone	ND		ug/kg	21	--	1
Methyl isobutyl ketone	ND		ug/kg	21	--	1
2-Hexanone	ND		ug/kg	21	--	1
Bromochloromethane	ND		ug/kg	4.1	--	1
Tetrahydrofuran	ND		ug/kg	8.3	--	1
2,2-Dichloropropane	ND		ug/kg	4.1	--	1
1,2-Dibromoethane	ND		ug/kg	2.1	--	1
1,3-Dichloropropane	ND		ug/kg	4.1	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	--	1
Bromobenzene	ND		ug/kg	4.1	--	1
n-Butylbenzene	ND		ug/kg	2.1	--	1
sec-Butylbenzene	ND		ug/kg	2.1	--	1
tert-Butylbenzene	ND		ug/kg	4.1	--	1
o-Chlorotoluene	ND		ug/kg	4.1	--	1
p-Chlorotoluene	ND		ug/kg	4.1	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.2	--	1
Hexachlorobutadiene	ND		ug/kg	8.3	--	1
Isopropylbenzene	ND		ug/kg	2.1	--	1
p-Isopropyltoluene	ND		ug/kg	2.1	--	1
Naphthalene	ND		ug/kg	8.3	--	1
n-Propylbenzene	ND		ug/kg	2.1	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 R Date Collected: 12/26/23 11:20

Client ID: HA24-TP2_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	4.1	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.1	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.1	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.1	--	1
Diethyl ether	ND		ug/kg	4.1	--	1
Diisopropyl Ether	ND		ug/kg	4.1	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.1	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.1	--	1
1,4-Dioxane	ND		ug/kg	160	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	100		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08
Client ID: HA24-TP2_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/29/23 23:47
Analyst: JIC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.6	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.7	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	0.97		ug/kg	0.56	--	1
Chlorobenzene	ND		ug/kg	0.56	--	1
Trichlorofluoromethane	ND		ug/kg	4.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.56	--	1
Bromodichloromethane	ND		ug/kg	0.56	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.56	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.56	--	1
1,1-Dichloropropene	ND		ug/kg	0.56	--	1
Bromoform	ND		ug/kg	4.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Benzene	ND		ug/kg	0.56	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.4	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08 Date Collected: 12/26/23 11:40

Client ID: HA24-TP2_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.56	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	ND		ug/kg	28	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.4	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	--	1
Hexachlorobutadiene	ND		ug/kg	4.4	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.4	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08 Date Collected: 12/26/23 11:40

Client ID: HA24-TP2_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	89	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1870137-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1870137-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1870137-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	99		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/02/24 10:43
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06 Batch: WG1870177-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/02/24 10:43
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06 Batch: WG1870177-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/02/24 10:43
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06 Batch: WG1870177-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	87		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	96		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/29/23 18:11
Analyst: SLS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1870202-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/29/23 18:11
Analyst: SLS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1870202-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/29/23 18:11
Analyst: SLS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1870202-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1870137-3 WG1870137-4								
Methylene chloride	87		80		70-130	8		20
1,1-Dichloroethane	100		93		70-130	7		20
Chloroform	87		86		70-130	1		20
Carbon tetrachloride	88		87		70-130	1		20
1,2-Dichloropropane	98		100		70-130	2		20
Dibromochloromethane	85		92		70-130	8		20
1,1,2-Trichloroethane	88		95		70-130	8		20
Tetrachloroethene	90		97		70-130	7		20
Chlorobenzene	88		90		70-130	2		20
Trichlorofluoromethane	94		85		70-130	10		20
1,2-Dichloroethane	92		90		70-130	2		20
1,1,1-Trichloroethane	90		86		70-130	5		20
Bromodichloromethane	89		90		70-130	1		20
trans-1,3-Dichloropropene	80		90		70-130	12		20
cis-1,3-Dichloropropene	87		90		70-130	3		20
1,1-Dichloropropene	99		96		70-130	3		20
Bromoform	75		86		70-130	14		20
1,1,2,2-Tetrachloroethane	88		100		70-130	13		20
Benzene	93		92		70-130	1		20
Toluene	89		95		70-130	7		20
Ethylbenzene	91		93		70-130	2		20
Chloromethane	108		97		70-130	11		20
Bromomethane	85		77		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1870137-3 WG1870137-4								
Vinyl chloride	97		87		70-130	11		20
Chloroethane	101		92		70-130	9		20
1,1-Dichloroethene	90		83		70-130	8		20
trans-1,2-Dichloroethene	86		80		70-130	7		20
Trichloroethene	94		94		70-130	0		20
1,2-Dichlorobenzene	85		89		70-130	5		20
1,3-Dichlorobenzene	86		89		70-130	3		20
1,4-Dichlorobenzene	85		88		70-130	3		20
Methyl tert butyl ether	89		85		70-130	5		20
p/m-Xylene	91		92		70-130	1		20
o-Xylene	91		92		70-130	1		20
cis-1,2-Dichloroethene	90		84		70-130	7		20
Dibromomethane	84		86		70-130	2		20
1,2,3-Trichloropropane	86		96		70-130	11		20
Styrene	92		94		70-130	2		20
Dichlorodifluoromethane	76		**69**	Q	70-130	10		20
Acetone	88		95		70-130	8		20
Carbon disulfide	88		83		70-130	6		20
Methyl ethyl ketone	90		104		70-130	14		20
Methyl isobutyl ketone	84		103		70-130	20		20
2-Hexanone	92		109		70-130	17		20
Bromochloromethane	80		83		70-130	4		20
Tetrahydrofuran	88		98		70-130	11		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1870137-3 WG1870137-4								
2,2-Dichloropropane	76		75		70-130	1		20
1,2-Dibromoethane	88		93		70-130	6		20
1,3-Dichloropropane	91		96		70-130	5		20
1,1,1,2-Tetrachloroethane	78		80		70-130	3		20
Bromobenzene	83		88		70-130	6		20
n-Butylbenzene	100		102		70-130	2		20
sec-Butylbenzene	95		98		70-130	3		20
tert-Butylbenzene	91		94		70-130	3		20
o-Chlorotoluene	105		109		70-130	4		20
p-Chlorotoluene	92		95		70-130	3		20
1,2-Dibromo-3-chloropropane	**67**	Q	86		70-130	**25**	Q	20
Hexachlorobutadiene	86		84		70-130	2		20
Isopropylbenzene	93		97		70-130	4		20
p-Isopropyltoluene	93		96		70-130	3		20
Naphthalene	82		89		70-130	8		20
n-Propylbenzene	96		99		70-130	3		20
1,2,3-Trichlorobenzene	83		89		70-130	7		20
1,2,4-Trichlorobenzene	89		92		70-130	3		20
1,3,5-Trimethylbenzene	93		95		70-130	2		20
1,2,4-Trimethylbenzene	92		95		70-130	3		20
Diethyl ether	88		85		70-130	3		20
Diisopropyl Ether	**139**	Q	121		70-130	14		20
Ethyl-Tert-Butyl-Ether	101		96		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1870137-3 WG1870137-4								
Tertiary-Amyl Methyl Ether	79		80		70-130	1		20
1,4-Dioxane	**64**	Q	73		70-130	13		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		98		70-130
Toluene-d8	96		103		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	94		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06 Batch: WG1870177-3 WG1870177-4								
Methylene chloride	72		77		70-130	7		20
1,1-Dichloroethane	83		89		70-130	7		20
Chloroform	95		102		70-130	7		20
Carbon tetrachloride	84		93		70-130	10		20
1,2-Dichloropropane	115		122		70-130	6		20
Dibromochloromethane	99		104		70-130	5		20
1,1,2-Trichloroethane	97		105		70-130	8		20
Tetrachloroethene	94		106		70-130	12		20
Chlorobenzene	91		99		70-130	8		20
Trichlorofluoromethane	**64**	Q	75		70-130	16		20
1,2-Dichloroethane	107		115		70-130	7		20
1,1,1-Trichloroethane	96		105		70-130	9		20
Bromodichloromethane	102		106		70-130	4		20
trans-1,3-Dichloropropene	103		108		70-130	5		20
cis-1,3-Dichloropropene	105		111		70-130	6		20
1,1-Dichloropropene	94		101		70-130	7		20
Bromoform	93		92		70-130	1		20
1,1,2,2-Tetrachloroethane	83		88		70-130	6		20
Benzene	100		107		70-130	7		20
Toluene	91		99		70-130	8		20
Ethylbenzene	94		103		70-130	9		20
Chloromethane	116		126		70-130	8		20
Bromomethane	**63**	Q	**69**	Q	70-130	9		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06 Batch: WG1870177-3 WG1870177-4								
Vinyl chloride	87		95		70-130	9		20
Chloroethane	**62**	Q	**67**	Q	70-130	8		20
1,1-Dichloroethene	73		79		70-130	8		20
trans-1,2-Dichloroethene	74		77		70-130	4		20
Trichloroethene	97		104		70-130	7		20
1,2-Dichlorobenzene	92		95		70-130	3		20
1,3-Dichlorobenzene	93		96		70-130	3		20
1,4-Dichlorobenzene	93		95		70-130	2		20
Methyl tert butyl ether	77		80		70-130	4		20
p/m-Xylene	97		105		70-130	8		20
o-Xylene	96		103		70-130	7		20
cis-1,2-Dichloroethene	79		83		70-130	5		20
Dibromomethane	96		102		70-130	6		20
1,2,3-Trichloropropane	86		91		70-130	6		20
Styrene	94		100		70-130	6		20
Dichlorodifluoromethane	**53**	Q	**66**	Q	70-130	**22**	Q	20
Acetone	98		111		70-130	12		20
Carbon disulfide	77		84		70-130	9		20
Methyl ethyl ketone	123		126		70-130	2		20
Methyl isobutyl ketone	102		111		70-130	8		20
2-Hexanone	107		111		70-130	4		20
Bromochloromethane	96		101		70-130	5		20
Tetrahydrofuran	117		121		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06 Batch: WG1870177-3 WG1870177-4								
2,2-Dichloropropane	90		96		70-130	6		20
1,2-Dibromoethane	92		100		70-130	8		20
1,3-Dichloropropane	100		107		70-130	7		20
1,1,1,2-Tetrachloroethane	95		100		70-130	5		20
Bromobenzene	90		95		70-130	5		20
n-Butylbenzene	85		89		70-130	5		20
sec-Butylbenzene	80		86		70-130	7		20
tert-Butylbenzene	88		95		70-130	8		20
o-Chlorotoluene	108		116		70-130	7		20
p-Chlorotoluene	97		102		70-130	5		20
1,2-Dibromo-3-chloropropane	84		89		70-130	6		20
Hexachlorobutadiene	100		104		70-130	4		20
Isopropylbenzene	91		96		70-130	5		20
p-Isopropyltoluene	80		85		70-130	6		20
Naphthalene	93		93		70-130	0		20
n-Propylbenzene	92		99		70-130	7		20
1,2,3-Trichlorobenzene	104		103		70-130	1		20
1,2,4-Trichlorobenzene	106		105		70-130	1		20
1,3,5-Trimethylbenzene	93		99		70-130	6		20
1,2,4-Trimethylbenzene	96		101		70-130	5		20
Diethyl ether	90		93		70-130	3		20
Diisopropyl Ether	112		117		70-130	4		20
Ethyl-Tert-Butyl-Ether	106		112		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06 Batch: WG1870177-3 WG1870177-4								
Tertiary-Amyl Methyl Ether	108		113		70-130	5		20
1,4-Dioxane	77		82		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		101		70-130
Toluene-d8	90		91		70-130
4-Bromofluorobenzene	93		93		70-130
Dibromofluoromethane	91		90		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1870202-3 WG1870202-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	75		70		70-130	7		20
1,1-Dichloroethane	85		79		70-130	7		20
Chloroform	101		89		70-130	13		20
Carbon tetrachloride	93		81		70-130	14		20
1,2-Dichloropropane	121		115		70-130	5		20
Dibromochloromethane	108		102		70-130	6		20
1,1,2-Trichloroethane	100		98		70-130	2		20
Tetrachloroethene	106		97		70-130	9		20
Chlorobenzene	98		92		70-130	6		20
Trichlorofluoromethane	70		**61**	Q	70-130	14		20
1,2-Dichloroethane	113		108		70-130	5		20
1,1,1-Trichloroethane	104		95		70-130	9		20
Bromodichloromethane	107		102		70-130	5		20
trans-1,3-Dichloropropene	106		102		70-130	4		20
cis-1,3-Dichloropropene	110		104		70-130	6		20
1,1-Dichloropropene	105		99		70-130	6		20
Bromoform	98		94		70-130	4		20
1,1,2,2-Tetrachloroethane	87		86		70-130	1		20
Benzene	110		103		70-130	7		20
Toluene	101		93		70-130	8		20
Ethylbenzene	104		97		70-130	7		20
Chloromethane	125		120		70-130	4		20
Bromomethane	72		**62**	Q	70-130	15		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1870202-3 WG1870202-4								
Vinyl chloride	91		86		70-130	6		20
Chloroethane	**66**	Q	**62**	Q	70-130	6		20
1,1-Dichloroethene	79		70		70-130	12		20
trans-1,2-Dichloroethene	76		70		70-130	8		20
Trichloroethene	103		100		70-130	3		20
1,2-Dichlorobenzene	100		91		70-130	9		20
1,3-Dichlorobenzene	98		90		70-130	9		20
1,4-Dichlorobenzene	97		90		70-130	7		20
Methyl tert butyl ether	77		75		70-130	3		20
p/m-Xylene	105		98		70-130	7		20
o-Xylene	105		97		70-130	8		20
cis-1,2-Dichloroethene	84		77		70-130	9		20
Dibromomethane	100		99		70-130	1		20
1,2,3-Trichloropropane	89		88		70-130	1		20
Styrene	99		93		70-130	6		20
Dichlorodifluoromethane	**63**	Q	**59**	Q	70-130	7		20
Acetone	104		100		70-130	4		20
Carbon disulfide	81		74		70-130	9		20
Methyl ethyl ketone	126		**136**	Q	70-130	8		20
Methyl isobutyl ketone	112		120		70-130	7		20
2-Hexanone	117		123		70-130	5		20
Bromochloromethane	99		85		70-130	15		20
Tetrahydrofuran	114		124		70-130	8		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1870202-3 WG1870202-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
2,2-Dichloropropane	88		82		70-130	7		20
1,2-Dibromoethane	97		96		70-130	1		20
1,3-Dichloropropane	105		101		70-130	4		20
1,1,1,2-Tetrachloroethane	101		96		70-130	5		20
Bromobenzene	96		91		70-130	5		20
n-Butylbenzene	90		83		70-130	8		20
sec-Butylbenzene	90		82		70-130	9		20
tert-Butylbenzene	100		91		70-130	9		20
o-Chlorotoluene	100		93		70-130	7		20
p-Chlorotoluene	104		96		70-130	8		20
1,2-Dibromo-3-chloropropane	91		96		70-130	5		20
Hexachlorobutadiene	111		102		70-130	8		20
Isopropylbenzene	103		93		70-130	10		20
p-Isopropyltoluene	90		82		70-130	9		20
Naphthalene	101		99		70-130	2		20
n-Propylbenzene	104		95		70-130	9		20
1,2,3-Trichlorobenzene	108		102		70-130	6		20
1,2,4-Trichlorobenzene	110		101		70-130	9		20
1,3,5-Trimethylbenzene	102		94		70-130	8		20
1,2,4-Trimethylbenzene	105		95		70-130	10		20
Diethyl ether	88		85		70-130	3		20
Diisopropyl Ether	111		107		70-130	4		20
Ethyl-Tert-Butyl-Ether	108		104		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1870202-3 WG1870202-4								
Tertiary-Amyl Methyl Ether	113		111		70-130	2		20
1,4-Dioxane	88		95		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		102		70-130
Toluene-d8	93		92		70-130
4-Bromofluorobenzene	93		97		70-130
Dibromofluoromethane	92		91		70-130

SEMIVOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01 D
Client ID: HA24-A3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 06:28
Analyst: EK
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	700	--	5
1,2,4-Trichlorobenzene	ND		ug/kg	870	--	5
Hexachlorobenzene	ND		ug/kg	370	--	5
Bis(2-chloroethyl)ether	ND		ug/kg	370	--	5
2-Chloronaphthalene	ND		ug/kg	870	--	5
1,2-Dichlorobenzene	ND		ug/kg	870	--	5
1,3-Dichlorobenzene	ND		ug/kg	870	--	5
1,4-Dichlorobenzene	ND		ug/kg	370	--	5
3,3'-Dichlorobenzidine	ND		ug/kg	870	--	5
2,4-Dinitrotoluene	ND		ug/kg	370	--	5
2,6-Dinitrotoluene	ND		ug/kg	870	--	5
Azobenzene	ND		ug/kg	870	--	5
Fluoranthene	2300		ug/kg	520	--	5
4-Bromophenyl phenyl ether	ND		ug/kg	870	--	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	370	--	5
Bis(2-chloroethoxy)methane	ND		ug/kg	940	--	5
Hexachlorobutadiene	ND		ug/kg	870	--	5
Hexachloroethane	ND		ug/kg	370	--	5
Isophorone	ND		ug/kg	780	--	5
Naphthalene	ND		ug/kg	870	--	5
Nitrobenzene	ND		ug/kg	780	--	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	870	--	5
Butyl benzyl phthalate	ND		ug/kg	870	--	5
Di-n-butylphthalate	ND		ug/kg	870	--	5
Di-n-octylphthalate	ND		ug/kg	870	--	5
Diethyl phthalate	ND		ug/kg	870	--	5
Dimethyl phthalate	ND		ug/kg	370	--	5
Benzo(a)anthracene	780		ug/kg	520	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01 D Date Collected: 12/26/23 08:30

Client ID: HA24-A3_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1000		ug/kg	700	--	5
Benzo(b)fluoranthene	1500		ug/kg	520	--	5
Benzo(k)fluoranthene	ND		ug/kg	520	--	5
Chrysene	1000		ug/kg	520	--	5
Acenaphthylene	ND		ug/kg	700	--	5
Anthracene	ND		ug/kg	520	--	5
Benzo(ghi)perylene	ND		ug/kg	700	--	5
Fluorene	ND		ug/kg	870	--	5
Phenanthrene	950		ug/kg	520	--	5
Dibenzo(a,h)anthracene	ND		ug/kg	370	--	5
Indeno(1,2,3-cd)pyrene	ND		ug/kg	700	--	5
Pyrene	1900		ug/kg	520	--	5
Aniline	ND		ug/kg	1000	--	5
4-Chloroaniline	ND		ug/kg	870	--	5
Dibenzofuran	ND		ug/kg	870	--	5
2-Methylnaphthalene	ND		ug/kg	370	--	5
Acetophenone	ND		ug/kg	870	--	5
2,4,6-Trichlorophenol	ND		ug/kg	370	--	5
2-Chlorophenol	ND		ug/kg	370	--	5
2,4-Dichlorophenol	ND		ug/kg	370	--	5
2,4-Dimethylphenol	ND		ug/kg	370	--	5
2-Nitrophenol	ND		ug/kg	1900	--	5
4-Nitrophenol	ND		ug/kg	1200	--	5
2,4-Dinitrophenol	ND		ug/kg	4200	--	5
Pentachlorophenol	ND		ug/kg	1700	--	5
Phenol	ND		ug/kg	870	--	5
2-Methylphenol	ND		ug/kg	870	--	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1200	--	5
2,4,5-Trichlorophenol	ND		ug/kg	870	--	5
Pyridine	ND		ug/kg	940	--	5
Biphenyl	ND		ug/kg	170	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-01	D	Date Collected:	12/26/23 08:30
Client ID:	HA24-A3_0-5		Date Received:	12/26/23
Sample Location:	BOSTON, MA		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		30-130
Phenol-d6	64		30-130
Nitrobenzene-d5	54		30-130
2-Fluorobiphenyl	63		30-130
2,4,6-Tribromophenol	74		30-130
4-Terphenyl-d14	61		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02
Client ID: HA24-A3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 05:20
Analyst: EK
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	350		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	78	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	78	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	78	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	78	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	5300		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	78	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	78	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	78	--	1
Benzo(a)anthracene	2400		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02 Date Collected: 12/26/23 08:40

Client ID: HA24-A3_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	2300		ug/kg	150	--	1
Benzo(b)fluoranthene	2900		ug/kg	110	--	1
Benzo(k)fluoranthene	660		ug/kg	110	--	1
Chrysene	2300		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	1000		ug/kg	110	--	1
Benzo(ghi)perylene	1000		ug/kg	150	--	1
Fluorene	410		ug/kg	190	--	1
Phenanthrene	3900		ug/kg	110	--	1
Dibenzo(a,h)anthracene	210		ug/kg	78	--	1
Indeno(1,2,3-cd)pyrene	930		ug/kg	150	--	1
Pyrene	4400		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	240		ug/kg	190	--	1
2-Methylnaphthalene	150		ug/kg	78	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	78	--	1
2-Chlorophenol	ND		ug/kg	78	--	1
2,4-Dichlorophenol	ND		ug/kg	78	--	1
2,4-Dimethylphenol	ND		ug/kg	78	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	37	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-02	Date Collected:	12/26/23 08:40
Client ID:	HA24-A3_5-10	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		30-130
Phenol-d6	64		30-130
Nitrobenzene-d5	62		30-130
2-Fluorobiphenyl	59		30-130
2,4,6-Tribromophenol	78		30-130
4-Terphenyl-d14	57		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03
Client ID: HA24-A3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 00:48
Analyst: EK
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	75	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	75	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	75	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	75	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	790		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	75	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	75	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	75	--	1
Benzo(a)anthracene	360		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03 Date Collected: 12/26/23 08:50

Client ID: HA24-A3_10-15 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	350		ug/kg	140	--	1
Benzo(b)fluoranthene	420		ug/kg	110	--	1
Benzo(k)fluoranthene	130		ug/kg	110	--	1
Chrysene	340		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	120		ug/kg	110	--	1
Benzo(ghi)perylene	180		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	480		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	75	--	1
Indeno(1,2,3-cd)pyrene	170		ug/kg	140	--	1
Pyrene	660		ug/kg	110	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	75	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	75	--	1
2-Chlorophenol	ND		ug/kg	75	--	1
2,4-Dichlorophenol	ND		ug/kg	75	--	1
2,4-Dimethylphenol	ND		ug/kg	75	--	1
2-Nitrophenol	ND		ug/kg	380	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	850	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	190	--	1
Biphenyl	ND		ug/kg	36	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-03	Date Collected:	12/26/23 08:50
Client ID:	HA24-A3_10-15	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	80		30-130
Nitrobenzene-d5	79		30-130
2-Fluorobiphenyl	72		30-130
2,4,6-Tribromophenol	90		30-130
4-Terphenyl-d14	73		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04 D
Client ID: HA24-B4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 06:11
Analyst: EK
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	680	--	5
1,2,4-Trichlorobenzene	ND		ug/kg	840	--	5
Hexachlorobenzene	ND		ug/kg	350	--	5
Bis(2-chloroethyl)ether	ND		ug/kg	350	--	5
2-Chloronaphthalene	ND		ug/kg	840	--	5
1,2-Dichlorobenzene	ND		ug/kg	840	--	5
1,3-Dichlorobenzene	ND		ug/kg	840	--	5
1,4-Dichlorobenzene	ND		ug/kg	350	--	5
3,3'-Dichlorobenzidine	ND		ug/kg	840	--	5
2,4-Dinitrotoluene	ND		ug/kg	350	--	5
2,6-Dinitrotoluene	ND		ug/kg	840	--	5
Azobenzene	ND		ug/kg	840	--	5
Fluoranthene	550		ug/kg	510	--	5
4-Bromophenyl phenyl ether	ND		ug/kg	840	--	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	350	--	5
Bis(2-chloroethoxy)methane	ND		ug/kg	910	--	5
Hexachlorobutadiene	ND		ug/kg	840	--	5
Hexachloroethane	ND		ug/kg	350	--	5
Isophorone	ND		ug/kg	760	--	5
Naphthalene	ND		ug/kg	840	--	5
Nitrobenzene	ND		ug/kg	760	--	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	840	--	5
Butyl benzyl phthalate	ND		ug/kg	840	--	5
Di-n-butylphthalate	ND		ug/kg	840	--	5
Di-n-octylphthalate	ND		ug/kg	840	--	5
Diethyl phthalate	ND		ug/kg	840	--	5
Dimethyl phthalate	ND		ug/kg	350	--	5
Benzo(a)anthracene	ND		ug/kg	510	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04 D Date Collected: 12/26/23 10:30

Client ID: HA24-B4_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	680	--	5
Benzo(b)fluoranthene	ND		ug/kg	510	--	5
Benzo(k)fluoranthene	ND		ug/kg	510	--	5
Chrysene	ND		ug/kg	510	--	5
Acenaphthylene	ND		ug/kg	680	--	5
Anthracene	ND		ug/kg	510	--	5
Benzo(ghi)perylene	1700		ug/kg	680	--	5
Fluorene	ND		ug/kg	840	--	5
Phenanthrene	ND		ug/kg	510	--	5
Dibenzo(a,h)anthracene	ND		ug/kg	350	--	5
Indeno(1,2,3-cd)pyrene	840		ug/kg	680	--	5
Pyrene	ND		ug/kg	510	--	5
Aniline	ND		ug/kg	1000	--	5
4-Chloroaniline	ND		ug/kg	840	--	5
Dibenzofuran	ND		ug/kg	840	--	5
2-Methylnaphthalene	ND		ug/kg	350	--	5
Acetophenone	ND		ug/kg	840	--	5
2,4,6-Trichlorophenol	ND		ug/kg	350	--	5
2-Chlorophenol	ND		ug/kg	350	--	5
2,4-Dichlorophenol	ND		ug/kg	350	--	5
2,4-Dimethylphenol	ND		ug/kg	350	--	5
2-Nitrophenol	ND		ug/kg	1800	--	5
4-Nitrophenol	ND		ug/kg	1200	--	5
2,4-Dinitrophenol	ND		ug/kg	4000	--	5
Pentachlorophenol	ND		ug/kg	1700	--	5
Phenol	ND		ug/kg	840	--	5
2-Methylphenol	ND		ug/kg	840	--	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1200	--	5
2,4,5-Trichlorophenol	ND		ug/kg	840	--	5
Pyridine	ND		ug/kg	910	--	5
Biphenyl	ND		ug/kg	170	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-04	D	Date Collected:	12/26/23 10:30
Client ID:	HA24-B4_0-5		Date Received:	12/26/23
Sample Location:	BOSTON, MA		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	62		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	89		30-130
4-Terphenyl-d14	72		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05
Client ID: HA24-B4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 03:37
Analyst: EK
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	77	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	77	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	77	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	77	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	1300		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	77	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	77	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	77	--	1
Benzo(a)anthracene	580		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05 Date Collected: 12/26/23 10:40

Client ID: HA24-B4_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	550		ug/kg	150	--	1
Benzo(b)fluoranthene	640		ug/kg	110	--	1
Benzo(k)fluoranthene	200		ug/kg	110	--	1
Chrysene	510		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	210		ug/kg	110	--	1
Benzo(ghi)perylene	310		ug/kg	150	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	990		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	77	--	1
Indeno(1,2,3-cd)pyrene	260		ug/kg	150	--	1
Pyrene	1100		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	77	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	77	--	1
2-Chlorophenol	ND		ug/kg	77	--	1
2,4-Dichlorophenol	ND		ug/kg	77	--	1
2,4-Dimethylphenol	ND		ug/kg	77	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	37	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-05	Date Collected:	12/26/23 10:40
Client ID:	HA24-B4_5-10	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		30-130
Phenol-d6	65		30-130
Nitrobenzene-d5	66		30-130
2-Fluorobiphenyl	62		30-130
2,4,6-Tribromophenol	49		30-130
4-Terphenyl-d14	61		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06
Client ID: HA24-B4_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 01:04
Analyst: EK
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	170		ug/kg	170	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	--	1
Hexachlorobenzene	ND		ug/kg	89	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	89	--	1
2-Chloronaphthalene	ND		ug/kg	210	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	89	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	--	1
2,4-Dinitrotoluene	ND		ug/kg	89	--	1
2,6-Dinitrotoluene	ND		ug/kg	210	--	1
Azobenzene	ND		ug/kg	210	--	1
Fluoranthene	2600		ug/kg	130	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	89	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Hexachloroethane	ND		ug/kg	89	--	1
Isophorone	ND		ug/kg	190	--	1
Naphthalene	ND		ug/kg	210	--	1
Nitrobenzene	ND		ug/kg	190	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	--	1
Butyl benzyl phthalate	ND		ug/kg	210	--	1
Di-n-butylphthalate	ND		ug/kg	210	--	1
Di-n-octylphthalate	ND		ug/kg	210	--	1
Diethyl phthalate	ND		ug/kg	210	--	1
Dimethyl phthalate	ND		ug/kg	89	--	1
Benzo(a)anthracene	1300		ug/kg	130	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06 Date Collected: 12/26/23 10:50

Client ID: HA24-B4_10-15 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1200		ug/kg	170	--	1
Benzo(b)fluoranthene	1300		ug/kg	130	--	1
Benzo(k)fluoranthene	500		ug/kg	130	--	1
Chrysene	1200		ug/kg	130	--	1
Acenaphthylene	ND		ug/kg	170	--	1
Anthracene	530		ug/kg	130	--	1
Benzo(ghi)perylene	600		ug/kg	170	--	1
Fluorene	ND		ug/kg	210	--	1
Phenanthrene	2200		ug/kg	130	--	1
Dibenzo(a,h)anthracene	150		ug/kg	89	--	1
Indeno(1,2,3-cd)pyrene	560		ug/kg	170	--	1
Pyrene	2400		ug/kg	130	--	1
Aniline	ND		ug/kg	250	--	1
4-Chloroaniline	ND		ug/kg	210	--	1
Dibenzofuran	ND		ug/kg	210	--	1
2-Methylnaphthalene	ND		ug/kg	89	--	1
Acetophenone	ND		ug/kg	210	--	1
2,4,6-Trichlorophenol	ND		ug/kg	89	--	1
2-Chlorophenol	ND		ug/kg	89	--	1
2,4-Dichlorophenol	ND		ug/kg	89	--	1
2,4-Dimethylphenol	ND		ug/kg	89	--	1
2-Nitrophenol	ND		ug/kg	460	--	1
4-Nitrophenol	ND		ug/kg	300	--	1
2,4-Dinitrophenol	ND		ug/kg	1000	--	1
Pentachlorophenol	ND		ug/kg	420	--	1
Phenol	ND		ug/kg	210	--	1
2-Methylphenol	ND		ug/kg	210	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	--	1
2,4,5-Trichlorophenol	ND		ug/kg	210	--	1
Pyridine	ND		ug/kg	230	--	1
Biphenyl	ND		ug/kg	42	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06 Date Collected: 12/26/23 10:50

Client ID: HA24-B4_10-15 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		30-130
Phenol-d6	65		30-130
Nitrobenzene-d5	66		30-130
2-Fluorobiphenyl	60		30-130
2,4,6-Tribromophenol	75		30-130
4-Terphenyl-d14	57		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 D2
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 01/02/24 14:13
Analyst: LJG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	55000		ug/kg	2900	--	25

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 D
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/31/23 17:53
Analyst: IM
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	3400		ug/kg	770	--	5
1,2,4-Trichlorobenzene	ND		ug/kg	960	--	5
Hexachlorobenzene	ND		ug/kg	400	--	5
Bis(2-chloroethyl)ether	ND		ug/kg	400	--	5
2-Chloronaphthalene	ND		ug/kg	960	--	5
1,2-Dichlorobenzene	ND		ug/kg	960	--	5
1,3-Dichlorobenzene	ND		ug/kg	960	--	5
1,4-Dichlorobenzene	ND		ug/kg	400	--	5
3,3'-Dichlorobenzidine	ND		ug/kg	960	--	5
2,4-Dinitrotoluene	ND		ug/kg	400	--	5
2,6-Dinitrotoluene	ND		ug/kg	960	--	5
Azobenzene	ND		ug/kg	960	--	5
Fluoranthene	44000	E	ug/kg	580	--	5
4-Bromophenyl phenyl ether	ND		ug/kg	960	--	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	400	--	5
Bis(2-chloroethoxy)methane	ND		ug/kg	1000	--	5
Hexachlorobutadiene	ND		ug/kg	960	--	5
Hexachloroethane	ND		ug/kg	400	--	5
Isophorone	ND		ug/kg	870	--	5
Naphthalene	1200		ug/kg	960	--	5
Nitrobenzene	ND		ug/kg	870	--	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	960	--	5
Butyl benzyl phthalate	ND		ug/kg	960	--	5
Di-n-butylphthalate	ND		ug/kg	960	--	5
Di-n-octylphthalate	ND		ug/kg	960	--	5
Diethyl phthalate	ND		ug/kg	960	--	5
Dimethyl phthalate	ND		ug/kg	400	--	5
Benzo(a)anthracene	24000		ug/kg	580	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 D Date Collected: 12/26/23 11:20

Client ID: HA24-TP2_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	24000		ug/kg	770	--	5
Benzo(b)fluoranthene	31000		ug/kg	580	--	5
Benzo(k)fluoranthene	8900		ug/kg	580	--	5
Chrysene	22000		ug/kg	580	--	5
Acenaphthylene	1700		ug/kg	770	--	5
Anthracene	7500		ug/kg	580	--	5
Benzo(ghi)perylene	15000		ug/kg	770	--	5
Fluorene	2600		ug/kg	960	--	5
Phenanthrene	32000		ug/kg	580	--	5
Dibenzo(a,h)anthracene	3300		ug/kg	400	--	5
Indeno(1,2,3-cd)pyrene	15000		ug/kg	770	--	5
Pyrene	38000		ug/kg	580	--	5
Aniline	ND		ug/kg	1200	--	5
4-Chloroaniline	ND		ug/kg	960	--	5
Dibenzofuran	1700		ug/kg	960	--	5
2-Methylnaphthalene	690		ug/kg	400	--	5
Acetophenone	ND		ug/kg	960	--	5
2,4,6-Trichlorophenol	ND		ug/kg	400	--	5
2-Chlorophenol	ND		ug/kg	400	--	5
2,4-Dichlorophenol	ND		ug/kg	400	--	5
2,4-Dimethylphenol	ND		ug/kg	400	--	5
2-Nitrophenol	ND		ug/kg	2100	--	5
4-Nitrophenol	ND		ug/kg	1400	--	5
2,4-Dinitrophenol	ND		ug/kg	4600	--	5
Pentachlorophenol	ND		ug/kg	1900	--	5
Phenol	ND		ug/kg	960	--	5
2-Methylphenol	ND		ug/kg	960	--	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1400	--	5
2,4,5-Trichlorophenol	ND		ug/kg	960	--	5
Pyridine	ND		ug/kg	1000	--	5
Biphenyl	220		ug/kg	190	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 D Date Collected: 12/26/23 11:20

Client ID: HA24-TP2_0-5 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		30-130
Phenol-d6	67		30-130
Nitrobenzene-d5	79		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	78		30-130
4-Terphenyl-d14	74		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08
Client ID: HA24-TP2_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/29/23 23:57
Analyst: EK
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	77	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	77	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	77	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	77	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	ND		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	77	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	77	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	77	--	1
Benzo(a)anthracene	ND		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08 Date Collected: 12/26/23 11:40

Client ID: HA24-TP2_5-10 Date Received: 12/26/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	150	--	1
Benzo(b)fluoranthene	ND		ug/kg	110	--	1
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	ND		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	ND		ug/kg	150	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	ND		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	77	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	--	1
Pyrene	ND		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	77	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	77	--	1
2-Chlorophenol	ND		ug/kg	77	--	1
2,4-Dichlorophenol	ND		ug/kg	77	--	1
2,4-Dimethylphenol	ND		ug/kg	77	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	37	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-08	Date Collected:	12/26/23 11:40
Client ID:	HA24-TP2_5-10	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		30-130
Phenol-d6	65		30-130
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	61		30-130
2,4,6-Tribromophenol	73		30-130
4-Terphenyl-d14	61		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:51
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-08 Batch: WG1869193-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:51
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-08 Batch: WG1869193-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:51
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/28/23 18:00

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-08 Batch: WG1869193-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	72		30-130
2-Fluorobiphenyl	70		30-130
2,4,6-Tribromophenol	75		30-130
4-Terphenyl-d14	73		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-08 Batch: WG1869193-2 WG1869193-3								
Acenaphthene	59		50		40-140	17		30
1,2,4-Trichlorobenzene	61		52		40-140	16		30
Hexachlorobenzene	67		56		40-140	18		30
Bis(2-chloroethyl)ether	62		53		40-140	16		30
2-Chloronaphthalene	67		56		40-140	18		30
1,2-Dichlorobenzene	56		50		40-140	11		30
1,3-Dichlorobenzene	56		49		40-140	13		30
1,4-Dichlorobenzene	57		49		40-140	15		30
3,3'-Dichlorobenzidine	56		51		40-140	9		30
2,4-Dinitrotoluene	66		55		40-140	18		30
2,6-Dinitrotoluene	81		66		40-140	20		30
Azobenzene	63		53		40-140	17		30
Fluoranthene	66		57		40-140	15		30
4-Bromophenyl phenyl ether	66		55		40-140	18		30
Bis(2-chloroisopropyl)ether	58		49		40-140	17		30
Bis(2-chloroethoxy)methane	63		53		40-140	17		30
Hexachlorobutadiene	61		53		40-140	14		30
Hexachloroethane	55		48		40-140	14		30
Isophorone	64		55		40-140	15		30
Naphthalene	60		51		40-140	16		30
Nitrobenzene	64		56		40-140	13		30
Bis(2-ethylhexyl)phthalate	70		61		40-140	14		30
Butyl benzyl phthalate	75		64		40-140	16		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-08 Batch: WG1869193-2 WG1869193-3								
Di-n-butylphthalate	68		58		40-140	16		30
Di-n-octylphthalate	73		62		40-140	16		30
Diethyl phthalate	67		56		40-140	18		30
Dimethyl phthalate	71		59		40-140	18		30
Benzo(a)anthracene	66		57		40-140	15		30
Benzo(a)pyrene	73		60		40-140	20		30
Benzo(b)fluoranthene	63		55		40-140	14		30
Benzo(k)fluoranthene	68		56		40-140	19		30
Chrysene	64		53		40-140	19		30
Acenaphthylene	67		56		40-140	18		30
Anthracene	65		56		40-140	15		30
Benzo(ghi)perylene	60		52		40-140	14		30
Fluorene	63		53		40-140	17		30
Phenanthrene	62		54		40-140	14		30
Dibenzo(a,h)anthracene	61		53		40-140	14		30
Indeno(1,2,3-cd)pyrene	61		53		40-140	14		30
Pyrene	66		56		40-140	16		30
Aniline	53		51		40-140	4		30
4-Chloroaniline	42		**37**	Q	40-140	13		30
Dibenzofuran	63		53		40-140	17		30
2-Methylnaphthalene	64		55		40-140	15		30
Acetophenone	70		60		40-140	15		30
2,4,6-Trichlorophenol	79		66		30-130	18		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-08 Batch: WG1869193-2 WG1869193-3								
2-Chlorophenol	65		57		30-130	13		30
2,4-Dichlorophenol	72		62		30-130	15		30
2,4-Dimethylphenol	68		57		30-130	18		30
2-Nitrophenol	82		68		30-130	19		30
4-Nitrophenol	66		54		30-130	20		30
2,4-Dinitrophenol	54		45		30-130	18		30
Pentachlorophenol	71		58		30-130	20		30
Phenol	72		62		30-130	15		30
2-Methylphenol	65		56		30-130	15		30
3-Methylphenol/4-Methylphenol	67		56		30-130	18		30
2,4,5-Trichlorophenol	78		63		30-130	21		30
Pyridine	40		36		30-130	11		30
Biphenyl	70		58		40-140	19		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	69		58		30-130
Phenol-d6	72		61		30-130
Nitrobenzene-d5	69		58		30-130
2-Fluorobiphenyl	67		55		30-130
2,4,6-Tribromophenol	87		72		30-130
4-Terphenyl-d14	70		60		30-130

PETROLEUM HYDROCARBONS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01 D
Client ID: HA24-A3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 16:29
Analyst: CRE
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	501000		ug/kg	68600	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	60		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02
Client ID: HA24-A3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 12:39
Analyst: CRE
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	207000		ug/kg	37200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	72		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03
Client ID: HA24-A3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 13:04
Analyst: CRE
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	77400		ug/kg	36100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04
Client ID: HA24-B4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 13:29
Analyst: CRE
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	33500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	77		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05
Client ID: HA24-B4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 13:54
Analyst: CRE
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	78300		ug/kg	36100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	70		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06
Client ID: HA24-B4_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 11:46
Analyst: CRE
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	43100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	78		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07 D
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 16:29
Analyst: CRE
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	996000		ug/kg	192000	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	72		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08
Client ID: HA24-TP2_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 14:44
Analyst: CRE
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	73600		ug/kg	35700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	74		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 12/28/23 09:52
Analyst: MTC

Extraction Method: EPA 3546
Extraction Date: 12/27/23 23:39

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-08 Batch: WG1868806-1					
TPH (C10-C36)	ND		ug/kg	32700	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	80		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-08 Batch: WG1868806-2								
TPH (C10-C36)	93		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	73				40-140

PCBS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01
Client ID: HA24-A3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 16:24
Analyst: AD
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	51.4	--	1	A
Aroclor 1221	ND		ug/kg	51.4	--	1	A
Aroclor 1232	ND		ug/kg	51.4	--	1	A
Aroclor 1242	ND		ug/kg	51.4	--	1	A
Aroclor 1248	ND		ug/kg	51.4	--	1	A
Aroclor 1254	ND		ug/kg	51.4	--	1	A
Aroclor 1260	ND		ug/kg	51.4	--	1	A
Aroclor 1262	ND		ug/kg	51.4	--	1	A
Aroclor 1268	ND		ug/kg	51.4	--	1	A
PCBs, Total	ND		ug/kg	51.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	45		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	57		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02
Client ID: HA24-A3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 16:35
Analyst: AD
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	52.8	--	1	A
Aroclor 1221	ND		ug/kg	52.8	--	1	A
Aroclor 1232	ND		ug/kg	52.8	--	1	A
Aroclor 1242	ND		ug/kg	52.8	--	1	A
Aroclor 1248	ND		ug/kg	52.8	--	1	A
Aroclor 1254	ND		ug/kg	52.8	--	1	A
Aroclor 1260	ND		ug/kg	52.8	--	1	A
Aroclor 1262	ND		ug/kg	52.8	--	1	A
Aroclor 1268	ND		ug/kg	52.8	--	1	A
PCBs, Total	ND		ug/kg	52.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	46		30-150	A
Decachlorobiphenyl	33		30-150	A
2,4,5,6-Tetrachloro-m-xylene	50		30-150	B
Decachlorobiphenyl	42		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03
Client ID: HA24-A3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 16:45
Analyst: AD
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	52.7	--	1	A
Aroclor 1221	ND		ug/kg	52.7	--	1	A
Aroclor 1232	ND		ug/kg	52.7	--	1	A
Aroclor 1242	ND		ug/kg	52.7	--	1	A
Aroclor 1248	ND		ug/kg	52.7	--	1	A
Aroclor 1254	ND		ug/kg	52.7	--	1	A
Aroclor 1260	ND		ug/kg	52.7	--	1	A
Aroclor 1262	ND		ug/kg	52.7	--	1	A
Aroclor 1268	ND		ug/kg	52.7	--	1	A
PCBs, Total	ND		ug/kg	52.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	A
Decachlorobiphenyl	35		30-150	A
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	44		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04
Client ID: HA24-B4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 16:55
Analyst: AD
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	51.4	--	1	A
Aroclor 1221	ND		ug/kg	51.4	--	1	A
Aroclor 1232	ND		ug/kg	51.4	--	1	A
Aroclor 1242	ND		ug/kg	51.4	--	1	A
Aroclor 1248	ND		ug/kg	51.4	--	1	A
Aroclor 1254	ND		ug/kg	51.4	--	1	A
Aroclor 1260	ND		ug/kg	51.4	--	1	B
Aroclor 1262	ND		ug/kg	51.4	--	1	A
Aroclor 1268	ND		ug/kg	51.4	--	1	A
PCBs, Total	ND		ug/kg	51.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	41		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	51		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05
Client ID: HA24-B4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 17:05
Analyst: AD
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	54.8	--	1	A
Aroclor 1221	ND		ug/kg	54.8	--	1	A
Aroclor 1232	ND		ug/kg	54.8	--	1	A
Aroclor 1242	ND		ug/kg	54.8	--	1	A
Aroclor 1248	ND		ug/kg	54.8	--	1	A
Aroclor 1254	ND		ug/kg	54.8	--	1	A
Aroclor 1260	ND		ug/kg	54.8	--	1	A
Aroclor 1262	ND		ug/kg	54.8	--	1	A
Aroclor 1268	ND		ug/kg	54.8	--	1	A
PCBs, Total	ND		ug/kg	54.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	47		30-150	A
Decachlorobiphenyl	32		30-150	A
2,4,5,6-Tetrachloro-m-xylene	52		30-150	B
Decachlorobiphenyl	41		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06
Client ID: HA24-B4_10-15
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 17:15
Analyst: AD
Percent Solids: 77%

Date Collected: 12/26/23 10:50
Date Received: 12/26/23
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	63.8	--	1	A
Aroclor 1221	ND		ug/kg	63.8	--	1	A
Aroclor 1232	ND		ug/kg	63.8	--	1	A
Aroclor 1242	ND		ug/kg	63.8	--	1	A
Aroclor 1248	ND		ug/kg	63.8	--	1	A
Aroclor 1254	ND		ug/kg	63.8	--	1	A
Aroclor 1260	ND		ug/kg	63.8	--	1	A
Aroclor 1262	ND		ug/kg	63.8	--	1	A
Aroclor 1268	ND		ug/kg	63.8	--	1	A
PCBs, Total	ND		ug/kg	63.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	50		30-150	A
Decachlorobiphenyl	30		30-150	A
2,4,5,6-Tetrachloro-m-xylene	54		30-150	B
Decachlorobiphenyl	36		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 17:25
Analyst: AD
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	54.6	--	1	A
Aroclor 1221	ND		ug/kg	54.6	--	1	A
Aroclor 1232	ND		ug/kg	54.6	--	1	A
Aroclor 1242	ND		ug/kg	54.6	--	1	A
Aroclor 1248	ND		ug/kg	54.6	--	1	A
Aroclor 1254	ND		ug/kg	54.6	--	1	A
Aroclor 1260	ND		ug/kg	54.6	--	1	B
Aroclor 1262	ND		ug/kg	54.6	--	1	A
Aroclor 1268	ND		ug/kg	54.6	--	1	A
PCBs, Total	ND		ug/kg	54.6	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	48		30-150	A
Decachlorobiphenyl	40		30-150	A
2,4,5,6-Tetrachloro-m-xylene	50		30-150	B
Decachlorobiphenyl	47		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08
Client ID: HA24-TP2_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/23 17:35
Analyst: AD
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 12/28/23 19:06
Cleanup Method: EPA 3665A
Cleanup Date: 12/29/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/29/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	55.6	--	1	A
Aroclor 1221	ND		ug/kg	55.6	--	1	A
Aroclor 1232	ND		ug/kg	55.6	--	1	A
Aroclor 1242	ND		ug/kg	55.6	--	1	A
Aroclor 1248	ND		ug/kg	55.6	--	1	A
Aroclor 1254	ND		ug/kg	55.6	--	1	A
Aroclor 1260	ND		ug/kg	55.6	--	1	A
Aroclor 1262	ND		ug/kg	55.6	--	1	A
Aroclor 1268	ND		ug/kg	55.6	--	1	A
PCBs, Total	ND		ug/kg	55.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	46		30-150	A
Decachlorobiphenyl	33		30-150	A
2,4,5,6-Tetrachloro-m-xylene	46		30-150	B
Decachlorobiphenyl	39		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/28/23 15:44
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 12/27/23 23:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/28/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/28/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-08 Batch: WG1868802-1						
Aroclor 1016	ND		ug/kg	47.8	--	A
Aroclor 1221	ND		ug/kg	47.8	--	A
Aroclor 1232	ND		ug/kg	47.8	--	A
Aroclor 1242	ND		ug/kg	47.8	--	A
Aroclor 1248	ND		ug/kg	47.8	--	A
Aroclor 1254	ND		ug/kg	47.8	--	A
Aroclor 1260	ND		ug/kg	47.8	--	A
Aroclor 1262	ND		ug/kg	47.8	--	A
Aroclor 1268	ND		ug/kg	47.8	--	A
PCBs, Total	ND		ug/kg	47.8	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	81		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	75		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-08 Batch: WG1868802-2 WG1868802-3									
Aroclor 1016	85		78		40-140	9		30	A
Aroclor 1260	91		85		40-140	7		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		70		30-150	A
Decachlorobiphenyl	87		81		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		75		30-150	B
Decachlorobiphenyl	82		80		30-150	B

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01
Client ID: HA24-A3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.05	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Arsenic, Total	9.77		mg/kg	0.410	--	1	12/28/23 12:27	12/31/23 14:40	EPA 3050B	97,6010D	TAA
Barium, Total	39.6		mg/kg	0.410	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.414		mg/kg	0.205	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Cadmium, Total	ND		mg/kg	0.410	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Chromium, Total	23.2		mg/kg	0.410	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Lead, Total	10.1		mg/kg	2.05	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Mercury, Total	ND		mg/kg	0.084	--	1	12/28/23 14:24	12/29/23 10:09	EPA 7471B	97,7471B	GMG
Nickel, Total	15.8		mg/kg	1.02	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.05	--	1	12/28/23 12:27	12/31/23 14:40	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.410	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.05	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Vanadium, Total	27.2		mg/kg	0.410	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM
Zinc, Total	39.6		mg/kg	2.05	--	1	12/28/23 12:27	12/29/23 20:52	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02
Client ID: HA24-A3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.14	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Arsenic, Total	9.07		mg/kg	0.428	--	1	12/28/23 12:27	12/31/23 14:44	EPA 3050B	97,6010D	TAA
Barium, Total	81.0		mg/kg	0.428	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.422		mg/kg	0.214	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Cadmium, Total	ND		mg/kg	0.428	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Chromium, Total	22.5		mg/kg	0.428	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Lead, Total	442		mg/kg	2.14	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Mercury, Total	0.126		mg/kg	0.091	--	1	12/28/23 14:24	12/29/23 10:19	EPA 7471B	97,7471B	GMG
Nickel, Total	13.1		mg/kg	1.07	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.14	--	1	12/28/23 12:27	12/31/23 14:44	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.428	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.14	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Vanadium, Total	24.4		mg/kg	0.428	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM
Zinc, Total	87.4		mg/kg	2.14	--	1	12/28/23 12:27	12/29/23 20:55	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03
Client ID: HA24-A3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.15	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Arsenic, Total	2.67		mg/kg	0.430	--	1	12/28/23 12:27	12/31/23 14:47	EPA 3050B	97,6010D	TAA
Barium, Total	25.1		mg/kg	0.430	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.225		mg/kg	0.215	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Cadmium, Total	ND		mg/kg	0.430	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Chromium, Total	8.47		mg/kg	0.430	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Lead, Total	69.4		mg/kg	2.15	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Mercury, Total	ND		mg/kg	0.082	--	1	12/28/23 14:24	12/29/23 10:22	EPA 7471B	97,7471B	GMG
Nickel, Total	6.10		mg/kg	1.08	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.15	--	1	12/28/23 12:27	12/31/23 14:47	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.430	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.15	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Vanadium, Total	15.9		mg/kg	0.430	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM
Zinc, Total	25.1		mg/kg	2.15	--	1	12/28/23 12:27	12/29/23 20:58	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04
Client ID: HA24-B4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.02	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Arsenic, Total	4.24		mg/kg	0.403	--	1	12/28/23 12:27	12/31/23 14:50	EPA 3050B	97,6010D	TAA
Barium, Total	11.1		mg/kg	0.403	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.414		mg/kg	0.202	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Cadmium, Total	ND		mg/kg	0.403	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Chromium, Total	5.82		mg/kg	0.403	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Lead, Total	13.0		mg/kg	2.02	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Mercury, Total	ND		mg/kg	0.083	--	1	12/28/23 14:24	12/29/23 10:26	EPA 7471B	97,7471B	GMG
Nickel, Total	5.07		mg/kg	1.01	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.02	--	1	12/28/23 12:27	12/31/23 14:50	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.403	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.02	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Vanadium, Total	13.7		mg/kg	0.403	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM
Zinc, Total	35.2		mg/kg	2.02	--	1	12/28/23 12:27	12/29/23 21:01	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05
Client ID: HA24-B4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.21	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Arsenic, Total	88.3		mg/kg	0.441	--	1	12/28/23 12:27	12/31/23 14:53	EPA 3050B	97,6010D	TAA
Barium, Total	162		mg/kg	0.441	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.278		mg/kg	0.221	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Cadmium, Total	0.730		mg/kg	0.441	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Chromium, Total	13.8		mg/kg	0.441	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Lead, Total	491		mg/kg	2.21	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Mercury, Total	1.55		mg/kg	0.087	--	1	12/28/23 14:24	12/29/23 10:29	EPA 7471B	97,7471B	GMG
Nickel, Total	10.1		mg/kg	1.10	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.21	--	1	12/28/23 12:27	12/31/23 14:53	EPA 3050B	97,6010D	TAA
Silver, Total	0.955		mg/kg	0.441	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.21	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Vanadium, Total	16.4		mg/kg	0.441	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM
Zinc, Total	396		mg/kg	2.21	--	1	12/28/23 12:27	12/29/23 21:05	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06
Client ID: HA24-B4_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.55	--	1	12/28/23 12:27	12/31/23 15:03	EPA 3050B	97,6010D	TAA
Arsenic, Total	4.56		mg/kg	0.510	--	1	12/28/23 12:27	12/31/23 15:03	EPA 3050B	97,6010D	TAA
Barium, Total	21.6		mg/kg	0.510	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.275		mg/kg	0.255	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Cadmium, Total	ND		mg/kg	0.510	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Chromium, Total	12.3		mg/kg	0.510	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Lead, Total	19.3		mg/kg	2.55	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Mercury, Total	ND		mg/kg	0.105	--	1	12/28/23 14:24	12/29/23 10:32	EPA 7471B	97,7471B	GMG
Nickel, Total	9.20		mg/kg	1.27	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.55	--	1	12/28/23 12:27	12/31/23 15:03	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.510	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.55	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Vanadium, Total	19.6		mg/kg	0.510	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM
Zinc, Total	65.5		mg/kg	2.55	--	1	12/28/23 12:27	12/29/23 22:59	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	4.08		mg/kg	2.24	--	1	12/28/23 12:27	12/31/23 15:06	EPA 3050B	97,6010D	TAA
Arsenic, Total	47.6		mg/kg	0.447	--	1	12/28/23 12:27	12/31/23 15:06	EPA 3050B	97,6010D	TAA
Barium, Total	365		mg/kg	0.447	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.672		mg/kg	0.224	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Cadmium, Total	2.05		mg/kg	0.447	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Chromium, Total	22.2		mg/kg	0.447	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Lead, Total	14900		mg/kg	2.24	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Mercury, Total	0.739		mg/kg	0.089	--	1	12/28/23 14:24	12/29/23 10:35	EPA 7471B	97,7471B	GMG
Nickel, Total	71.7		mg/kg	1.12	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.24	--	1	12/28/23 12:27	12/31/23 15:06	EPA 3050B	97,6010D	TAA
Silver, Total	1.05		mg/kg	0.447	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.24	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Vanadium, Total	230		mg/kg	0.447	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM
Zinc, Total	561		mg/kg	2.24	--	1	12/28/23 12:27	12/29/23 23:02	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376095
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08
Client ID: HA24-TP2_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.17	--	1	12/28/23 12:27	12/31/23 15:09	EPA 3050B	97,6010D	TAA
Arsenic, Total	7.56		mg/kg	0.435	--	1	12/28/23 12:27	12/31/23 15:09	EPA 3050B	97,6010D	TAA
Barium, Total	107		mg/kg	0.435	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Beryllium, Total	0.279		mg/kg	0.217	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Cadmium, Total	0.468		mg/kg	0.435	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Chromium, Total	10.3		mg/kg	0.435	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Lead, Total	254		mg/kg	2.17	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Mercury, Total	0.424		mg/kg	0.081	--	1	12/28/23 14:24	12/29/23 10:39	EPA 7471B	97,7471B	GMG
Nickel, Total	11.5		mg/kg	1.09	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.17	--	1	12/28/23 12:27	12/31/23 15:09	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.435	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.17	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Vanadium, Total	19.3		mg/kg	0.435	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM
Zinc, Total	279		mg/kg	2.17	--	1	12/28/23 12:27	12/29/23 23:05	EPA 3050B	97,6010D	MAM

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-08 Batch: WG1868956-1										
Mercury, Total	ND		mg/kg	0.083	--	1	12/28/23 14:24	12/29/23 09:49	97,7471B	GMG

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-08 Batch: WG1868958-1										
Antimony, Total	ND		mg/kg	2.00	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Arsenic, Total	ND		mg/kg	0.400	--	1	12/28/23 12:27	12/31/23 14:24	97,6010D	TAA
Barium, Total	ND		mg/kg	0.400	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Beryllium, Total	ND		mg/kg	0.200	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Cadmium, Total	ND		mg/kg	0.400	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Chromium, Total	ND		mg/kg	0.400	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Lead, Total	ND		mg/kg	2.00	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Nickel, Total	ND		mg/kg	1.00	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Selenium, Total	ND		mg/kg	2.00	--	1	12/28/23 12:27	12/31/23 14:24	97,6010D	TAA
Silver, Total	ND		mg/kg	0.400	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Thallium, Total	ND		mg/kg	2.00	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Vanadium, Total	ND		mg/kg	0.400	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM
Zinc, Total	ND		mg/kg	2.00	--	1	12/28/23 12:27	12/29/23 20:34	97,6010D	MAM

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-08 Batch: WG1868956-2 WG1868956-3 SRM Lot Number: D122-540								
Mercury, Total	101		98		73-127	3		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-08 Batch: WG1868958-2 WG1868958-3 SRM Lot Number: D122-540								
Antimony, Total	158		159		6-194	1		30
Arsenic, Total	109		110		81-119	1		30
Barium, Total	96		91		83-117	5		30
Beryllium, Total	97		100		83-117	3		30
Cadmium, Total	93		94		83-117	1		30
Chromium, Total	94		96		82-118	2		30
Lead, Total	103		100		83-117	3		30
Nickel, Total	96		96		83-117	0		30
Selenium, Total	109		110		81-119	1		30
Silver, Total	98		96		80-120	2		30
Thallium, Total	101		100		81-119	1		30
Vanadium, Total	89		88		80-120	1		30
Zinc, Total	93		93		82-119	0		30

INORGANICS
&
MISCELLANEOUS

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-01	Date Collected:	12/26/23 08:30
Client ID:	HA24-A3_0-5	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-02	Date Collected:	12/26/23 08:40
Client ID:	HA24-A3_5-10	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-03	Date Collected:	12/26/23 08:50
Client ID:	HA24-A3_10-15	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-04	Date Collected:	12/26/23 10:30
Client ID:	HA24-B4_0-5	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-05	Date Collected:	12/26/23 10:40
Client ID:	HA24-B4_5-10	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-06	Date Collected:	12/26/23 10:50
Client ID:	HA24-B4_10-15	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-07	Date Collected:	12/26/23 11:20
Client ID:	HA24-TP2_0-5	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376095-08	Date Collected:	12/26/23 11:40
Client ID:	HA24-TP2_5-10	Date Received:	12/26/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-01
Client ID: HA24-A3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	57		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	93.3		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	7.88		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:27	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:44	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-02
Client ID: HA24-A3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	79		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	88.2		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	8.44		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:27	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:44	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-03
Client ID: HA24-A3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	100		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	91.0		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	8.57		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:27	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:45	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-04
Client ID: HA24-B4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:30
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	200		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	96.5		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	9.05		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:28	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:45	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-05
Client ID: HA24-B4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	320		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	90.3		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	10.2		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:28	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:45	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-06
Client ID: HA24-B4_10-15
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:50
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	100		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	76.7		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	8.09		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:28	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:45	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-07
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	380		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	85.1		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	8.75		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:28	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:46	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376095-08
Client ID: HA24-TP2_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	320		umhos/cm	10	--	1	-	12/30/23 07:59	1,9050A	CAR
Solids, Total	89.0		%	0.100	NA	1	-	12/27/23 10:03	121,2540G	ROI
pH (H)	8.02		SU	-	NA	1	-	12/30/23 05:33	1,9045D	OCF
Cyanide, Reactive	ND		mg/kg	130	--	1	12/29/23 13:53	12/29/23 16:28	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/29/23 13:53	12/29/23 16:46	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376095

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-08 Batch: WG1869430-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	12/29/23 13:53	12/29/23 16:26	125,7.3	JLB
General Chemistry - Westborough Lab for sample(s): 01-08 Batch: WG1869431-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	12/29/23 13:53	12/29/23 16:41	125,7.3	JLB

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 Batch: WG1869430-2								
Cyanide, Reactive	110		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-08 Batch: WG1869431-2								
Sulfide, Reactive	113		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-08 Batch: WG1869641-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-08 Batch: WG1869650-1								
Specific Conductance	101		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376095

Report Date: 01/03/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1868436-1 QC Sample: L2376095-01 Client ID: HA24-A3_0-5						
Solids, Total	93.3	94.5	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1869430-3 QC Sample: L2376095-08 Client ID: HA24-TP2_5-10						
Cyanide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1869431-3 QC Sample: L2376095-08 Client ID: HA24-TP2_5-10						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1869650-2 QC Sample: L2376095-08 Client ID: HA24-TP2_5-10						
Specific Conductance @ 25 C	320	340	umhos/cm	6		20

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376095-01A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-01B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-01C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-01D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376095-01E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376095-01F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376095-01G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-01H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-01I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-02A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-02B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-02C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-02D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376095-02E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376095-02F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2376095-02G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-02H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-02I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-03A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-03B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-03C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-03D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376095-03E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376095-03F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2376095-03G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-03H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376095-03I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376095-04A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-04B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-04C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-04D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376095-04E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376095-04F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2376095-04G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-04H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-04I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-05A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-05B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-05C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-05D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376095-05E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376095-05F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2376095-05G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-05H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-05I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-06A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-06B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-06C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-06D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376095-06E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376095-06F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376095-06G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-06H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376095-06I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376095-07A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-07B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-07C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-07D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376095-07E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376095-07F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376095-07G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-07H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376095-07I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		MCP-8082-10(365),REACTS(14),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376095-08A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14)
L2376095-08B	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)

*Values in parentheses indicate holding time in days

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376095
Report Date: 01/03/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376095-08C	Vial water preserved	A	NA		2.6	Y	Absent	26-DEC-23 20:27	MCP-8260HLW-21(14)
L2376095-08D	Vial Large Septa unpreserved (4oz)	A	NA		2.6	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376095-08E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376095-08F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376095-08G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		2.6	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376095-08H	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376095-08I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		MCP-8082-10(365),IGNIT-1030(14),REACTS(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376095
Project Number:	134206-012	**Report Date:**	01/03/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 12/26/23

ALPHA Job #: L2376095

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project #: 134206-012
(Use Project name as Project #) ☐
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard — Due Date:
☐ Rush (only if pre-approved) — # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do

Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	VOCs	SVOCs	MCP 14 Metals	PCBs	TPH	Waste Characteristics (1)	Herbicides / Pesticides		Sample Specific Comments	Total Bottles
76095-01	HA24-A3_0-5	12/26/23	0830	SO	CFT		X	X	X	X	X	X				
-02	HA24-A3_5-10	↓	0840	↓	↓		X	X	X	X	X	X				
-03	HA24-A3_10-15		0850				X	X	X	X	X	X				
-04	HA24-B4_0-5		1030				X	X	X	X	X	X				
-05	HA24-B4_5-10		1040				X	X	X	X	X	X				
-06	HA24-B4_5-15	↓	1050	↓	↓		X	X	X	X	X	X				
-07	HA24-TP2_0-5	12/26/23	11:20	SO FILL	AEM	0-5	X	X	X	X	X	X				
-08	HA24-TP2_5-10	12/26/23	11:40	SO FILL	AEM	5-10	X	X	X	X	X	X				

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
C.F. Tierney	12/26/23	[illegible]	12/26/2023
[illegible]	12/26/23 14:15	[illegible] AAL	12/26/23 14:16
[illegible] AAL	12/26/23 17:08	[illegible]	12/26/23 1708

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1870202-5	**Lab File ID**	: V27231229Q04
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 12/29/23 18:11

Client Sample No.	Lab Sample ID	Analysis Date
WG1870202-3LCS	WG1870202-3	12/29/23 17:09
WG1870202-4LCSD	WG1870202-4	12/29/23 17:30
HA24-A3_0-5	L2376095-01	12/29/23 21:22
HA24-A3_5-10	L2376095-02	12/29/23 21:43
HA24-A3_10-15	L2376095-03	12/29/23 22:03
HA24-B4_0-5	L2376095-04	12/29/23 22:24
HA24-B4_5-10	L2376095-05	12/29/23 22:45
HA24-TP2_0-5	L2376095-07	12/29/23 23:26
HA24-TP2_5-10	L2376095-08	12/29/23 23:47

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1870137-5	**Lab File ID**	: V29231231A05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 12/31/23 13:31

Client Sample No.	Lab Sample ID	Analysis Date
WG1870137-3LCS	WG1870137-3	12/31/23 12:07
WG1870137-4LCSD	WG1870137-4	12/31/23 12:28
HA24-TP2_0-5	L2376095-07R	12/31/23 16:17

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1870177-5	**Lab File ID**	: V27240102A05
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 01/02/24 10:43

Client Sample No.	Lab Sample ID	Analysis Date
WG1870177-3LCS	WG1870177-3	01/02/24 09:41
WG1870177-4LCSD	WG1870177-4	01/02/24 11:45
HA24-B4_10-15	L2376095-06	01/02/24 16:34

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA127	Calibration Date	: 12/29/23 17:09
Lab File ID	: V27231229Q01	Init. Calib. Date(s)	: 12/14/23 12/15/23
Sample No	: WG1870202-2	Init. Calib. Times	: 20:52 00:19
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	72	0
Dichlorodifluoromethane	0.364	0.23	-	36.8*	20	49	0
Chloromethane	0.258	0.322	-	-24.8*	20	91	0
Vinyl chloride	40	36.318	-	9.2	20	69	0
Bromomethane	0.286	0.205	-	28.3*	20	59	0
Chloroethane	40	26.428	-	33.9*	20	54	0
Trichlorofluoromethane	0.511	0.356	-	30.3*	20	51	0
Ethyl ether	0.14	0.123	-	12.1	20	63	0
1,1-Dichloroethene	0.296	0.233	-	21.3*	20	56	0
Carbon disulfide	0.969	0.783	-	19.2	20	58	0
Methylene chloride	0.368	0.275	-	25.3*	20	64	0
Acetone	40	41.477	-	-3.7	20	79	0
trans-1,2-Dichloroethene	0.34	0.257	-	24.4*	20	57	0
Methyl tert-butyl ether	0.838	0.648	-	22.7*	20	57	0
Diisopropyl ether	0.867	0.963	-	-11.1	20	85	-.01
1,1-Dichloroethane	0.592	0.504	-	14.9	20	66	0
Ethyl tert-butyl ether	0.759	0.817	-	-7.6	20	73	0
cis-1,2-Dichloroethene	0.352	0.294	-	16.5	20	73	0
2,2-Dichloropropane	0.413	0.362	-	12.3	20	73	0
Bromochloromethane	0.157	0.156	-	0.6	20	76	0
Chloroform	0.509	0.512	-	-0.6	20	78	0
Carbon tetrachloride	40	37.149	-	7.1	20	74	0
Tetrahydrofuran	0.054	0.062	-	-14.8	20	93	0
Dibromofluoromethane	0.278	0.256	-	7.9	20	68	0
1,1,1-Trichloroethane	0.414	0.429	-	-3.6	20	74	0
2-Butanone	0.092	0.116	-	-26.1*	20	102	0
1,1-Dichloropropene	40	41.953	-	-4.9	20	77	0
Benzene	0.987	1.086	-	-10	20	79	0
tert-Amyl methyl ether	0.574	0.651	-	-13.4	20	82	0
1,2-Dichloroethane-d4	0.275	0.273	-	0.7	20	73	0
1,2-Dichloroethane	0.333	0.377	-	-13.2	20	84	0
Trichloroethene	0.288	0.296	-	-2.8	20	75	0
Dibromomethane	0.166	0.167	-	-0.6	20	76	0
1,2-Dichloropropane	0.239	0.289	-	-20.9*	20	89	0
Bromodichloromethane	0.336	0.36	-	-7.1	20	78	0
1,4-Dioxane	0.00268	0.00235*	-	12.3	20	65	0
cis-1,3-Dichloropropene	0.37	0.409	-	-10.5	20	80	0
Chlorobenzene-d5	1	1	-	0	20	73	0
Toluene-d8	1.241	1.148	-	7.5	20	66	0
Toluene	0.823	0.83	-	-0.9	20	75	0
4-Methyl-2-pentanone	0.089	0.1	-	-12.4	20	85	0
Tetrachloroethene	0.373	0.395	-	-5.9	20	76	0
trans-1,3-Dichloropropene	0.426	0.451	-	-5.9	20	79	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA127	Calibration Date	: 12/29/23 17:09
Lab File ID	: V27231229Q01	Init. Calib. Date(s)	: 12/14/23 12/15/23
Sample No	: WG1870202-2	Init. Calib. Times	: 20:52 00:19
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.24	0.241	-	-0.4	20	75	0
Chlorodibromomethane	0.317	0.343	-	-8.2	20	79	0
1,3-Dichloropropane	0.46	0.482	-	-4.8	20	78	0
1,2-Dibromoethane	0.293	0.285	-	2.7	20	72	0
2-Hexanone	0.155	0.182	-	-17.4	20	93	0
Chlorobenzene	0.994	0.98	-	1.4	20	74	0
Ethylbenzene	1.503	1.564	-	-4.1	20	74	0
1,1,1,2-Tetrachloroethane	0.352	0.358	-	-1.7	20	76	0
p/m Xylene	0.604	0.633	-	-4.8	20	73	0
o Xylene	0.589	0.621	-	-5.4	20	73	0
Styrene	80	78.971	-	1.3	20	73	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	71	0
Bromoform	0.394	0.385	-	2.3	20	79	0
Isopropylbenzene	2.794	2.883	-	-3.2	20	72	0
4-Bromofluorobenzene	0.735	0.685	-	6.8	20	67	0
Bromobenzene	0.8	0.772	-	3.5	20	73	0
n-Propylbenzene	3.282	3.43	-	-4.5	20	73	0
1,1,2,2-Tetrachloroethane	0.69	0.603	-	12.6	20	66	0
2-Chlorotoluene	1.975	1.972	-	0.2	20	71	0
1,3,5-Trimethylbenzene	2.452	2.501	-	-2	20	72	0
1,2,3-Trichloropropane	0.559	0.497	-	11.1	20	68	0
4-Chlorotoluene	1.961	2.051	-	-4.6	20	74	0
tert-Butylbenzene	2.167	2.161	-	0.3	20	71	0
1,2,4-Trimethylbenzene	2.293	2.404	-	-4.8	20	72	0
sec-Butylbenzene	40	35.948	-	10.1	20	70	0
p-Isopropyltoluene	40	35.912	-	10.2	20	71	0
1,3-Dichlorobenzene	1.574	1.539	-	2.2	20	74	0
1,4-Dichlorobenzene	1.574	1.522	-	3.3	20	73	0
n-Butylbenzene	40	36.209	-	9.5	20	70	0
1,2-Dichlorobenzene	1.467	1.462	-	0.3	20	76	0
1,2-Dibromo-3-chloropropan	0.108	0.098	-	9.3	20	69	0
Hexachlorobutadiene	0.457	0.508	-	-11.2	20	81	0
1,2,4-Trichlorobenzene	0.885	0.974	-	-10.1	20	81	0
Naphthalene	2.074	2.101	-	-1.3	20	73	0
1,2,3-Trichlorobenzene	0.849	0.919	-	-8.2	20	78	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	93	0
Dichlorodifluoromethane	0.332	0.251	-	24.4*	20	66	0
Chloromethane	0.42	0.454	-	-8.1	20	95	0
Vinyl chloride	0.377	0.365	-	3.2	20	85	0
Bromomethane	0.185	0.157	-	15.1	20	83	0
Chloroethane	0.206	0.208	-	-1	20	88	0
Trichlorofluoromethane	0.367	0.346	-	5.7	20	82	0
Ethyl ether	0.13	0.115	-	11.5	20	80	0
1,1-Dichloroethene	0.225	0.201	-	10.7	20	79	0
Carbon disulfide	0.786	0.689	-	12.3	20	76	0
Freon-113	0.237	0.231	-	2.5	20	82	0
Acrolein	40	36.269	-	9.3	20	86	0
Methylene chloride	40	34.727	-	13.2	20	77	0
Acetone	40	35.277	-	11.8	20	85	-.01
trans-1,2-Dichloroethene	0.255	0.219	-	14.1	20	76	0
Methyl acetate	0.254	0.227	-	10.6	20	89	0
Methyl tert-butyl ether	0.671	0.595	-	11.3	20	76	-.01
tert-Butyl alcohol	0.045	0.03	-	33.3*	20	66	-.02
Diisopropyl ether	1.023	1.424	-	-39.2*	20	118	-.01
1,1-Dichloroethane	0.563	0.563	-	0	20	89	0
Halothane	0.193	0.18	-	6.7	20	82	0
Acrylonitrile	0.108	0.113	-	-4.6	20	100	0
Ethyl tert-butyl ether	0.907	0.917	-	-1.1	20	85	-.01
Vinyl acetate	0.658	0.703	-	-6.8	20	93	0
cis-1,2-Dichloroethene	0.289	0.261	-	9.7	20	79	0
2,2-Dichloropropane	0.35	0.267	-	23.7*	20	68	-.01
Bromochloromethane	0.134	0.107	-	20.1*	20	72	0
Cyclohexane	0.555	0.636	-	-14.6	20	95	0
Chloroform	0.485	0.423	-	12.8	20	76	-.01
Ethyl acetate	0.302	0.283	-	6.3	20	83	0
Carbon tetrachloride	0.313	0.275	-	12.1	20	75	0
Tetrahydrofuran	0.112	0.099	-	11.6	20	84	0
Dibromofluoromethane	0.252	0.237	-	6	20	88	0
1,1,1-Trichloroethane	0.381	0.343	-	10	20	74	0
2-Butanone	0.151	0.136	-	9.9	20	85	0
1,1-Dichloropropene	0.343	0.339	-	1.2	20	81	0
Benzene	0.99	0.921	-	7	20	78	0
tert-Amyl methyl ether	0.633	0.499	-	21.2*	20	67	0
1,2-Dichloroethane-d4	0.321	0.328	-	-2.2	20	97	0
1,2-Dichloroethane	0.417	0.385	-	7.7	20	81	0
Methyl cyclohexane	0.428	0.421	-	1.6	20	81	0
Trichloroethene	0.26	0.245	-	5.8	20	77	0
Dibromomethane	0.162	0.136	-	16	20	75	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.306	0.301	-	1.6	20	84	0
2-Chloroethyl vinyl ether	0.184	0.137	-	25.5*	20	64	-.03
Bromodichloromethane	0.336	0.3*	-	10.7	20	75	0
1,4-Dioxane	0.00323	0.00207*	-	35.9*	20	59	0
cis-1,3-Dichloropropene	0.366	0.319	-	12.8	20	70	0
Chlorobenzene-d5	1	1	-	0	20	92	0
Toluene-d8	1.302	1.256	-	3.5	20	89	0
Toluene	0.875	0.78	-	10.9	20	77	0
4-Methyl-2-pentanone	0.155	0.13	-	16.1	20	71	0
Tetrachloroethene	0.338	0.305	-	9.8	20	74	0
trans-1,3-Dichloropropene	0.445	0.358	-	19.6	20	68	0
Ethyl methacrylate	0.351	0.299	-	14.8	20	72	0
1,1,2-Trichloroethane	0.248	0.219	-	11.7	20	76	0
Chlorodibromomethane	0.307	0.26	-	15.3	20	70	0
1,3-Dichloropropane	0.508	0.463	-	8.9	20	77	0
1,2-Dibromoethane	0.274	0.242	-	11.7	20	73	0
2-Hexanone	0.275	0.254	-	7.6	20	80	0
Chlorobenzene	0.945	0.831	-	12.1	20	75	0
Ethylbenzene	1.663	1.52	-	8.6	20	78	0
1,1,1,2-Tetrachloroethane	40	31.042	-	22.4*	20	71	0
p/m Xylene	0.625	0.567	-	9.3	20	77	0
o Xylene	0.606	0.55	-	9.2	20	77	0
Styrene	0.997	0.916	-	8.1	20	75	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	93	0
Bromoform	0.388	0.292	-	24.7*	20	64	0
Isopropylbenzene	3.156	2.927	-	7.3	20	77	0
4-Bromofluorobenzene	0.963	0.935	-	2.9	20	89	0
Bromobenzene	0.786	0.652	-	17	20	71	0
n-Propylbenzene	3.818	3.675	-	3.7	20	81	0
1,4-Dichlorobutane	1.245	1.244	-	0.1	20	86	0
1,1,2,2-Tetrachloroethane	0.713	0.63	-	11.6	20	73	0
4-Ethyltoluene	3.149	2.973	-	5.6	20	78	0
2-Chlorotoluene	2.37	2.494	-	-5.2	20	90	0
1,3,5-Trimethylbenzene	2.79	2.59	-	7.2	20	77	0
1,2,3-Trichloropropane	0.642	0.549	-	14.5	20	74	0
trans-1,4-Dichloro-2-buten	0.263	0.24	-	8.7	20	82	0
4-Chlorotoluene	2.434	2.242	-	7.9	20	78	0
tert-Butylbenzene	2.31	2.102	-	9	20	77	0
1,2,4-Trimethylbenzene	2.69	2.487	-	7.5	20	77	0
sec-Butylbenzene	3.438	3.274	-	4.8	20	79	0
p-Isopropyltoluene	2.933	2.741	-	6.5	20	78	0
1,3-Dichlorobenzene	1.526	1.305	-	14.5	20	73	0
1,4-Dichlorobenzene	1.552	1.318	-	15.1	20	74	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.805	1.673	-	7.3	20	77	0
n-Butylbenzene	2.679	2.679	-	0	20	82	0
1,2-Dichlorobenzene	1.438	1.22	-	15.2	20	73	0
1,2,4,5-Tetramethylbenzene	2.739	2.53	-	7.6	20	76	0
1,2-Dibromo-3-chloropropan	0.115	0.077	-	33*	20	60	0
1,3,5-Trichlorobenzene	1.142	0.994	-	13	20	76	0
Hexachlorobutadiene	0.554	0.475	-	14.3	20	73	0
1,2,4-Trichlorobenzene	1.012	0.903	-	10.8	20	76	0
Naphthalene	2.453	2.003	-	18.3	20	70	0
1,2,3-Trichlorobenzene	0.973	0.809	-	16.9	20	73	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA127	Calibration Date	: 01/02/24 09:20
Lab File ID	: V27240102A01	Init. Calib. Date(s)	: 12/14/23 12/15/23
Sample No	: WG1870177-2	Init. Calib. Times	: 20:52 00:19
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.364	0.22	-	39.6*	20	56	0
Chloromethane	0.258	0.345	-	-33.7*	20	116	0
Vinyl chloride	40	38.875	-	2.8	20	88	0
Bromomethane	0.286	0.208	-	27.3*	20	72	0
Chloroethane	40	27.891	-	30.3*	20	68	0
Trichlorofluoromethane	0.511	0.365	-	28.6*	20	62	0
Ethyl ether	0.14	0.128	-	8.6	20	78	0
1,1-Dichloroethene	0.296	0.232	-	21.6*	20	67	0
Carbon disulfide	0.969	0.831	-	14.2	20	74	0
Methylene chloride	0.368	0.286	-	22.3*	20	79	0
Acetone	40	40.845	-	-2.1	20	93	0
trans-1,2-Dichloroethene	0.34	0.27	-	20.6*	20	71	0
Methyl tert-butyl ether	0.838	0.672	-	19.8	20	70	0
Diisopropyl ether	0.867	1.02	-	-17.6	20	107	-.01
1,1-Dichloroethane	0.592	0.531	-	10.3	20	83	0
Ethyl tert-butyl ether	0.759	0.84	-	-10.7	20	90	0
cis-1,2-Dichloroethene	0.352	0.302	-	14.2	20	90	-.01
2,2-Dichloropropane	0.413	0.409	-	1	20	98	0
Bromochloromethane	0.157	0.157	-	0	20	91	-.01
Chloroform	0.509	0.502	-	1.4	20	91	-.01
Carbon tetrachloride	40	36.401	-	9	20	87	0
Tetrahydrofuran	0.054	0.063	-	-16.7	20	112	0
Dibromofluoromethane	0.278	0.249	-	10.4	20	79	0
1,1,1-Trichloroethane	0.414	0.421	-	-1.7	20	86	0
2-Butanone	0.092	0.105	-	-14.1	20	109	-.01
1,1-Dichloropropene	40	39.272	-	1.8	20	86	0
Benzene	0.987	1.046	-	-6	20	91	0
tert-Amyl methyl ether	0.574	0.626	-	-9.1	20	94	0
1,2-Dichloroethane-d4	0.275	0.269	-	2.2	20	86	0
1,2-Dichloroethane	0.333	0.366	-	-9.9	20	97	0
Trichloroethene	0.288	0.289	-	-0.3	20	87	0
Dibromomethane	0.166	0.163	-	1.8	20	88	0
1,2-Dichloropropane	0.239	0.284	-	-18.8	20	104	0
Bromodichloromethane	0.336	0.349	-	-3.9	20	90	0
1,4-Dioxane	0.00268	0.00197*	-	26.5*	20	65	0
cis-1,3-Dichloropropene	0.37	0.381	-	-3	20	89	0
Chlorobenzene-d5	1	1	-	0	20	86	0
Toluene-d8	1.241	1.131	-	8.9	20	76	0
Toluene	0.823	0.801	-	2.7	20	85	0
4-Methyl-2-pentanone	0.089	0.094	-	-5.6	20	93	0
Tetrachloroethene	0.373	0.387	-	-3.8	20	87	0
trans-1,3-Dichloropropene	0.426	0.458	-	-7.5	20	93	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376095
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA127	Calibration Date	: 01/02/24 09:20
Lab File ID	: V27240102A01	Init. Calib. Date(s)	: 12/14/23 12/15/23
Sample No	: WG1870177-2	Init. Calib. Times	: 20:52 00:19
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.24	0.244	-	-1.7	20	88	0
Chlorodibromomethane	0.317	0.337	-	-6.3	20	91	0
1,3-Dichloropropane	0.46	0.477	-	-3.7	20	90	0
1,2-Dibromoethane	0.293	0.283	-	3.4	20	83	0
2-Hexanone	0.155	0.169	-	-9	20	101	0
Chlorobenzene	0.994	0.979	-	1.5	20	86	0
Ethylbenzene	1.503	1.542	-	-2.6	20	85	0
1,1,1,2-Tetrachloroethane	0.352	0.358	-	-1.7	20	89	0
p/m Xylene	0.604	0.628	-	-4	20	84	0
o Xylene	0.589	0.609	-	-3.4	20	84	0
Styrene	80	79.578	-	0.5	20	86	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	85	0
Bromoform	0.394	0.381	-	3.3	20	93	0
Isopropylbenzene	2.794	2.785	-	0.3	20	83	0
4-Bromofluorobenzene	0.735	0.683	-	7.1	20	79	0
Bromobenzene	0.8	0.77	-	3.8	20	87	0
n-Propylbenzene	3.282	3.337	-	-1.7	20	84	0
1,1,2,2-Tetrachloroethane	0.69	0.626	-	9.3	20	81	0
2-Chlorotoluene	1.975	2.348	-	-18.9	20	101	0
1,3,5-Trimethylbenzene	2.452	2.495	-	-1.8	20	86	0
1,2,3-Trichloropropane	0.559	0.514	-	8.1	20	84	0
4-Chlorotoluene	1.961	2.041	-	-4.1	20	88	0
tert-Butylbenzene	2.167	2.117	-	2.3	20	83	0
1,2,4-Trimethylbenzene	2.293	2.411	-	-5.1	20	86	0
sec-Butylbenzene	40	35.499	-	11.3	20	82	0
p-Isopropyltoluene	40	35.475	-	11.3	20	83	0
1,3-Dichlorobenzene	1.574	1.555	-	1.2	20	88	0
1,4-Dichlorobenzene	1.574	1.543	-	2	20	88	0
n-Butylbenzene	40	36.462	-	8.8	20	83	0
1,2-Dichlorobenzene	1.467	1.439	-	1.9	20	89	0
1,2-Dibromo-3-chloropropan	0.108	0.095	-	12	20	78	0
Hexachlorobutadiene	0.457	0.499	-	-9.2	20	95	0
1,2,4-Trichlorobenzene	0.885	0.969	-	-9.5	20	96	0
Naphthalene	2.074	1.937	-	6.6	20	80	0
1,2,3-Trichlorobenzene	0.849	0.895	-	-5.4	20	90	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2376099
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/02/24

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376099
Report Date: 01/02/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2376099-01	A4-TCLP-N1_0-5	SOIL	BOSTON, MA	12/26/23 10:00	12/26/23
L2376099-02	A4-TCLP-N2_0-5	SOIL	BOSTON, MA	12/26/23 09:40	12/26/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376099
Project Number:	134206-012	**Report Date:**	01/02/24

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376099
Project Number:	134206-012	**Report Date:**	01/02/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376099
Project Number:	134206-012	**Report Date:**	01/02/24

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L2376099-01: The sample identified as "A4-TCLP-N1" on the chain of custody was identified as "A4-TCLP-N1_0-5" on the container label. At the client's request, the sample is reported as "A4-TCLP-N1_0-5".

L2376099-02: The sample identified as "A4-TCLP-N2" on the chain of custody was identified as "A4-TCLP-N2_0-5" on the container label. At the client's request, the sample is reported as "A4-TCLP-N2_0-5".

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Total Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 01/02/24

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376099

Report Date: 01/02/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376099
Project Number: 134206-012
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2376099-01
Client ID: A4-TCLP-N1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:00
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

TCLP/SPLP Ext. Date: 12/27/23 04:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	3.64		mg/l	0.500	--	1	12/28/23 08:37	12/28/23 10:01	EPA 3015	1,6010D	DHL

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376099
Project Number: 134206-012
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2376099-01
Client ID: A4-TCLP-N1_0-5
Sample Location: BOSTON, MA
Date Collected: 12/26/23 10:00
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	84.4		mg/kg	2.15	--	1	12/29/23 02:20	12/31/23 16:15	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376099
Project Number: 134206-012
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2376099-02
Client ID: A4-TCLP-N2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 09:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

TCLP/SPLP Ext. Date: 12/27/23 04:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	3.33		mg/l	0.500	--	1	12/28/23 08:37	12/28/23 10:31	EPA 3015	1,6010D	DHL

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376099
Project Number: 134206-012
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2376099-02
Client ID: A4-TCLP-N2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 09:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	847		mg/kg	2.13	--	1	12/29/23 02:20	12/31/23 16:20	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376099

Project Number: 134206-012 **Report Date:** 01/02/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-02 Batch: WG1868906-1										
Lead, TCLP	ND		mg/l	0.500	--	1	12/28/23 08:37	12/28/23 09:45	1,6010D	DHL

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 12/27/23 04:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1869072-1										
Lead, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376099

Report Date: 01/02/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1868906-2								
Lead, TCLP	102		-		75-125	-		20
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1869072-2 WG1869072-3 SRM Lot Number: D122-540								
Lead, Total	103		102		83-117	1		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376099
Report Date: 01/02/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1868906-3 QC Sample: L2376099-01 Client ID: A4-TCLP-N1_0-5												
Lead, TCLP	3.64	5.3	8.88	99		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376099

Report Date: 01/02/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1868906-4 QC Sample: L2376099-01 Client ID: A4-TCLP-N1_0-5						
Lead, TCLP	3.64	3.55	mg/l	3		20

INORGANICS
&
MISCELLANEOUS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376099
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2376099-01
Client ID: A4-TCLP-N1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:00
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.9		%	0.100	NA	1	-	12/27/23 01:31	121,2540G	WJM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376099
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2376099-02
Client ID: A4-TCLP-N2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 09:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	12/27/23 01:31	121,2540G	WJM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376099
Report Date: 01/02/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376099-01A	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376099-01B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-PB-6010T-10(180)
L2376099-01C	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		-
L2376099-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L2376099-01X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L2376099-02A	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2376099-02B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-PB-6010T-10(180)
L2376099-02C	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		-
L2376099-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L2376099-02X9	Tumble Vessel	A	NA		2.6	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376099
Project Number:	134206-012	**Report Date:**	01/02/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376099
Project Number:	134206-012	**Report Date:**	01/02/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376099
Project Number:	134206-012	**Report Date:**	01/02/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376099
Project Number:	134206-012	**Report Date:**	01/02/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA Analytical Laboratories

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 12/26/23

ALPHA Job #: L2376099

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project #: 134206-012
(Use Project name as Project #) ☐
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard — Due Date:
☐ Rush (only if pre-approved) — # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do

Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	Total Lead	TCLP Lead	Sample Specific Comments	Total Bottles
76099-01	A4-TCLP-N1	12/26/23	1000	SO	CFT	5	X	X		5
02	A4-TCLP-N2	↓	0940	SO	↓	5	X	X		5

	Total Lead	TCLP Lead
Container Type	A	A
Preservative	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
C.F. Tierney	12/26/23	[illegible]	12/26/23
[illegible]	12/26/2023 14:15	[illegible] AAL	12/26/23 14:16
[illegible] AAL	12/26/23 1708	[illegible]	12/26/23 1708

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

ANALYTICAL REPORT

Lab Number:	L2376243
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/03/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2376243-01	HA24-B3_0-5	SOIL	BOSTON, MA	12/27/23 11:30	12/27/23
L2376243-02	HA24-B3_5-10	SOIL	BOSTON, MA	12/27/23 12:00	12/27/23
L2376243-03	HA24-B3_10-15	SOIL	BOSTON, MA	12/27/23 12:10	12/27/23
L2376243-04	HA24-A1_0-5	SOIL	BOSTON, MA	12/27/23 12:30	12/27/23
L2376243-05	HA24-A1_5-10	SOIL	BOSTON, MA	12/27/23 12:40	12/27/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L2376243-01 through -05: The collection time was obtained from the container labels.

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2376243-01 through -05: Initial calibration utilized a quadratic fit for: 1,1,1,2-tetrachloroethane

L2376243-04R: Initial calibration utilized a quadratic fit for: chloroethane, 1,1-dichloropropene, styrene, 1,2,4,5-tetramethylbenzene

In reference to question H:

L2376243-04: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (37%) and the surrogate recovery for 4-bromofluorobenzene (131%) were outside the acceptance criteria; however, re-analysis achieved the following results: 1,4-dichlorobenzene-d4 (27%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias.

L2376243-01 through -05: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: trichloroethene (0.1904), bromodichloromethane (0.2472), 1,4-dioxane (0.0032), cis-1,3-dichloropropene (0.2490)

Average Response Factor: 1,4-dioxane

Verification: dichlorodifluoromethane (62%)

L2376243-04R: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromodichloromethane (0.2448), 1,4-dioxane (0.0023)

Average Response Factor: 1,4-dioxane

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative (continued)

Verification: ethyl ether (138%)

L2376243-01 through -05: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2376243-04D: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L2376243-04D: One or more of the target analytes did not achieve the requested CAM reporting limits.

Non MCP Related Narratives

pH

The WG1870293-2 Laboratory Duplicate RPD for ph (9%), performed on L2376243-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative

Date: 01/03/24

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	HA24-A1_0-5	L2376243-04	4-Bromofluorobenzene	Surrogate	131	70-130	-	potential high bias
8260D	Batch QC	WG1870137-3	1,2-Dibromo-3-chloropropane	LCS	67	70-130	01-05	potential low bias
8260D	Batch QC	WG1870137-3	Diisopropyl Ether	LCS	139	70-130	01-05	potential high bias
8260D	Batch QC	WG1870137-3	1,4-Dioxane	LCS	64	70-130	01-05	potential low bias
8260D	Batch QC	WG1870137-4	Dichlorodifluoromethane	LCSD	69	70-130	01-05	potential low bias
8260D	Batch QC	WG1870137-4	1,2-Dibromo-3-chloropropane	LCSD	25	20	01-05	non-directional bias
8260D	Batch QC	WG1870177-3	Trichlorofluoromethane	LCS	64	70-130	04	potential low bias
8260D	Batch QC	WG1870177-3	Bromomethane	LCS	63	70-130	04	potential low bias
8260D	Batch QC	WG1870177-3	Chloroethane	LCS	62	70-130	04	potential low bias
8260D	Batch QC	WG1870177-3	Dichlorodifluoromethane	LCS	53	70-130	04	potential low bias
8260D	Batch QC	WG1870177-4	Bromomethane	LCSD	69	70-130	04	potential low bias
8260D	Batch QC	WG1870177-4	Chloroethane	LCSD	67	70-130	04	potential low bias
8260D	Batch QC	WG1870177-4	Dichlorodifluoromethane	LCSD	22	20	04	non-directional bias
8260D	Batch QC	WG1870177-4	Dichlorodifluoromethane	LCSD	66	70-130	04	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270E	HA24-B3_5-10	L2376243-02	2,4,6-Tribromophenol	Surrogate	11	30-130	-	potential low bias
8270E	Batch QC	WG1870037-2	4-Chloroaniline	LCS	30	40-140	02	potential low bias
8270E	Batch QC	WG1870037-3	4-Chloroaniline	LCSD	36	40-140	02	potential low bias
General Chemistry - Westborough Lab								
9045D	Batch QC (L2376243-01)	WG1870293-2	pH (H)	Duplicate	9	5	01-05	non-directional bias

ORGANICS

VOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01
Client ID: HA24-B3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 11:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 15:36
Analyst: JIC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.89	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.89	--	1
1,2-Dichloropropane	ND		ug/kg	0.89	--	1
Dibromochloromethane	ND		ug/kg	0.89	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.89	--	1
Tetrachloroethene	ND		ug/kg	0.44	--	1
Chlorobenzene	ND		ug/kg	0.44	--	1
Trichlorofluoromethane	ND		ug/kg	3.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.89	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	--	1
Bromodichloromethane	ND		ug/kg	0.44	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.89	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	--	1
1,1-Dichloropropene	ND		ug/kg	0.44	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Benzene	ND		ug/kg	0.44	--	1
Toluene	ND		ug/kg	0.89	--	1
Ethylbenzene	ND		ug/kg	0.89	--	1
Chloromethane	ND		ug/kg	3.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.89	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.89	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01 Date Collected: 12/27/23 11:30

Client ID: HA24-B3_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.44	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.89	--	1
Xylenes, Total	ND		ug/kg	0.89	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.89	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.89	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.89	--	1
Dichlorodifluoromethane	ND		ug/kg	8.9	--	1
Acetone	ND		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.9	--	1
Methyl ethyl ketone	ND		ug/kg	8.9	--	1
Methyl isobutyl ketone	ND		ug/kg	8.9	--	1
2-Hexanone	ND		ug/kg	8.9	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.89	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.89	--	1
sec-Butylbenzene	ND		ug/kg	0.89	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	--	1
Hexachlorobutadiene	ND		ug/kg	3.6	--	1
Isopropylbenzene	ND		ug/kg	0.89	--	1
p-Isopropyltoluene	ND		ug/kg	0.89	--	1
Naphthalene	ND		ug/kg	3.6	--	1
n-Propylbenzene	ND		ug/kg	0.89	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01 Date Collected: 12/27/23 11:30

Client ID: HA24-B3_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	71	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	100		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02
Client ID: HA24-B3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:51
Analyst: JIC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.92	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.92	--	1
1,2-Dichloropropane	ND		ug/kg	0.92	--	1
Dibromochloromethane	ND		ug/kg	0.92	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.92	--	1
Tetrachloroethene	0.51		ug/kg	0.46	--	1
Chlorobenzene	ND		ug/kg	0.46	--	1
Trichlorofluoromethane	ND		ug/kg	3.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.92	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.46	--	1
Bromodichloromethane	ND		ug/kg	0.46	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.92	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.46	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.46	--	1
1,1-Dichloropropene	ND		ug/kg	0.46	--	1
Bromoform	ND		ug/kg	3.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Benzene	ND		ug/kg	0.46	--	1
Toluene	ND		ug/kg	0.92	--	1
Ethylbenzene	ND		ug/kg	0.92	--	1
Chloromethane	ND		ug/kg	3.7	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.92	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.92	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02 Date Collected: 12/27/23 12:00

Client ID: HA24-B3_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.46	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.92	--	1
Xylenes, Total	ND		ug/kg	0.92	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.92	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.92	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.92	--	1
Dichlorodifluoromethane	ND		ug/kg	9.2	--	1
Acetone	ND		ug/kg	23	--	1
Carbon disulfide	ND		ug/kg	9.2	--	1
Methyl ethyl ketone	ND		ug/kg	9.2	--	1
Methyl isobutyl ketone	ND		ug/kg	9.2	--	1
2-Hexanone	ND		ug/kg	9.2	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.92	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.92	--	1
sec-Butylbenzene	ND		ug/kg	0.92	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.7	--	1
Isopropylbenzene	ND		ug/kg	0.92	--	1
p-Isopropyltoluene	ND		ug/kg	0.92	--	1
Naphthalene	ND		ug/kg	3.7	--	1
n-Propylbenzene	ND		ug/kg	0.92	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02 Date Collected: 12/27/23 12:00

Client ID: HA24-B3_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	74	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	95		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03
Client ID: HA24-B3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:10
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 14:12
Analyst: JIC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.9	--	1
1,1-Dichloroethane	ND		ug/kg	0.77	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.77	--	1
1,2-Dichloropropane	ND		ug/kg	0.77	--	1
Dibromochloromethane	ND		ug/kg	0.77	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.77	--	1
Tetrachloroethene	ND		ug/kg	0.39	--	1
Chlorobenzene	ND		ug/kg	0.39	--	1
Trichlorofluoromethane	ND		ug/kg	3.1	--	1
1,2-Dichloroethane	ND		ug/kg	0.77	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.39	--	1
Bromodichloromethane	ND		ug/kg	0.39	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.77	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.39	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.39	--	1
1,1-Dichloropropene	ND		ug/kg	0.39	--	1
Bromoform	ND		ug/kg	3.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.39	--	1
Benzene	ND		ug/kg	0.39	--	1
Toluene	ND		ug/kg	0.77	--	1
Ethylbenzene	ND		ug/kg	0.77	--	1
Chloromethane	ND		ug/kg	3.1	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.77	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.77	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03 Date Collected: 12/27/23 12:10

Client ID: HA24-B3_10-15 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.39	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.77	--	1
Xylenes, Total	ND		ug/kg	0.77	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.77	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.77	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.77	--	1
Dichlorodifluoromethane	ND		ug/kg	7.7	--	1
Acetone	ND		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.7	--	1
Methyl ethyl ketone	ND		ug/kg	7.7	--	1
Methyl isobutyl ketone	ND		ug/kg	7.7	--	1
2-Hexanone	ND		ug/kg	7.7	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.1	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.77	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.39	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.77	--	1
sec-Butylbenzene	ND		ug/kg	0.77	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.1	--	1
Isopropylbenzene	ND		ug/kg	0.77	--	1
p-Isopropyltoluene	ND		ug/kg	0.77	--	1
Naphthalene	ND		ug/kg	3.1	--	1
n-Propylbenzene	ND		ug/kg	0.77	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03 Date Collected: 12/27/23 12:10

Client ID: HA24-B3_10-15 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	62	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	96		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04
Client ID: HA24-A1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 14:33
Analyst: JIC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.92	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.92	--	1
1,2-Dichloropropane	ND		ug/kg	0.92	--	1
Dibromochloromethane	ND		ug/kg	0.92	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.92	--	1
Tetrachloroethene	ND		ug/kg	0.46	--	1
Chlorobenzene	ND		ug/kg	0.46	--	1
Trichlorofluoromethane	ND		ug/kg	3.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.92	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.46	--	1
Bromodichloromethane	ND		ug/kg	0.46	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.92	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.46	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.46	--	1
1,1-Dichloropropene	ND		ug/kg	0.46	--	1
Bromoform	ND		ug/kg	3.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Benzene	ND		ug/kg	0.46	--	1
Toluene	ND		ug/kg	0.92	--	1
Ethylbenzene	ND		ug/kg	0.92	--	1
Chloromethane	ND		ug/kg	3.7	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.92	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.92	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 Date Collected: 12/27/23 12:30

Client ID: HA24-A1_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.46	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.92	--	1
Xylenes, Total	ND		ug/kg	0.92	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.92	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.92	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.92	--	1
Dichlorodifluoromethane	ND		ug/kg	9.2	--	1
Acetone	ND		ug/kg	23	--	1
Carbon disulfide	ND		ug/kg	9.2	--	1
Methyl ethyl ketone	ND		ug/kg	9.2	--	1
Methyl isobutyl ketone	ND		ug/kg	9.2	--	1
2-Hexanone	ND		ug/kg	9.2	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.92	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.92	--	1
sec-Butylbenzene	ND		ug/kg	0.92	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.7	--	1
Isopropylbenzene	ND		ug/kg	0.92	--	1
p-Isopropyltoluene	ND		ug/kg	0.92	--	1
Naphthalene	ND		ug/kg	3.7	--	1
n-Propylbenzene	ND		ug/kg	0.92	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 Date Collected: 12/27/23 12:30

Client ID: HA24-A1_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	73	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	**131**	Q	70-130
Dibromofluoromethane	101		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 R
Client ID: HA24-A1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 01/02/24 16:55
Analyst: JIC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.84	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.84	--	1
1,2-Dichloropropane	ND		ug/kg	0.84	--	1
Dibromochloromethane	ND		ug/kg	0.84	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.84	--	1
Tetrachloroethene	0.46		ug/kg	0.42	--	1
Chlorobenzene	ND		ug/kg	0.42	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.84	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.42	--	1
Bromodichloromethane	ND		ug/kg	0.42	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.84	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.42	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.42	--	1
1,1-Dichloropropene	ND		ug/kg	0.42	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Benzene	ND		ug/kg	0.42	--	1
Toluene	ND		ug/kg	0.84	--	1
Ethylbenzene	ND		ug/kg	0.84	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.84	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.84	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 R Date Collected: 12/27/23 12:30

Client ID: HA24-A1_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.42	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	0.84	--	1
Xylenes, Total	ND		ug/kg	0.84	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.84	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.84	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.84	--	1
Dichlorodifluoromethane	ND		ug/kg	8.4	--	1
Acetone	ND		ug/kg	21	--	1
Carbon disulfide	ND		ug/kg	8.4	--	1
Methyl ethyl ketone	ND		ug/kg	8.4	--	1
Methyl isobutyl ketone	ND		ug/kg	8.4	--	1
2-Hexanone	ND		ug/kg	8.4	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.84	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.84	--	1
sec-Butylbenzene	ND		ug/kg	0.84	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.84	--	1
p-Isopropyltoluene	ND		ug/kg	0.84	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.84	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 R Date Collected: 12/27/23 12:30

Client ID: HA24-A1_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	67	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	103		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05
Client ID: HA24-A1_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:40
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 14:54
Analyst: JIC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.1	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.51	--	1
Chlorobenzene	ND		ug/kg	0.51	--	1
Trichlorofluoromethane	ND		ug/kg	4.1	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.51	--	1
Bromodichloromethane	ND		ug/kg	0.51	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.51	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.51	--	1
1,1-Dichloropropene	ND		ug/kg	0.51	--	1
Bromoform	ND		ug/kg	4.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.51	--	1
Benzene	ND		ug/kg	0.51	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.1	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05 Date Collected: 12/27/23 12:40

Client ID: HA24-A1_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.51	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	5.0		ug/kg	2.0	--	1
o-Xylene	2.6		ug/kg	1.0	--	1
Xylenes, Total	7.6		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	ND		ug/kg	26	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.1	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.51	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	--	1
Hexachlorobutadiene	ND		ug/kg	4.1	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	8.0		ug/kg	4.1	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05 Date Collected: 12/27/23 12:40

Client ID: HA24-A1_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	104		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05 Batch: WG1870137-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05 Batch: WG1870137-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05 Batch: WG1870137-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	99		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/02/24 10:43
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1870177-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/02/24 10:43
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1870177-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/02/24 10:43
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1870177-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	87		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05 Batch: WG1870137-3 WG1870137-4								
Methylene chloride	87		80		70-130	8		20
1,1-Dichloroethane	100		93		70-130	7		20
Chloroform	87		86		70-130	1		20
Carbon tetrachloride	88		87		70-130	1		20
1,2-Dichloropropane	98		100		70-130	2		20
Dibromochloromethane	85		92		70-130	8		20
1,1,2-Trichloroethane	88		95		70-130	8		20
Tetrachloroethene	90		97		70-130	7		20
Chlorobenzene	88		90		70-130	2		20
Trichlorofluoromethane	94		85		70-130	10		20
1,2-Dichloroethane	92		90		70-130	2		20
1,1,1-Trichloroethane	90		86		70-130	5		20
Bromodichloromethane	89		90		70-130	1		20
trans-1,3-Dichloropropene	80		90		70-130	12		20
cis-1,3-Dichloropropene	87		90		70-130	3		20
1,1-Dichloropropene	99		96		70-130	3		20
Bromoform	75		86		70-130	14		20
1,1,2,2-Tetrachloroethane	88		100		70-130	13		20
Benzene	93		92		70-130	1		20
Toluene	89		95		70-130	7		20
Ethylbenzene	91		93		70-130	2		20
Chloromethane	108		97		70-130	11		20
Bromomethane	85		77		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05 Batch: WG1870137-3 WG1870137-4								
Vinyl chloride	97		87		70-130	11		20
Chloroethane	101		92		70-130	9		20
1,1-Dichloroethene	90		83		70-130	8		20
trans-1,2-Dichloroethene	86		80		70-130	7		20
Trichloroethene	94		94		70-130	0		20
1,2-Dichlorobenzene	85		89		70-130	5		20
1,3-Dichlorobenzene	86		89		70-130	3		20
1,4-Dichlorobenzene	85		88		70-130	3		20
Methyl tert butyl ether	89		85		70-130	5		20
p/m-Xylene	91		92		70-130	1		20
o-Xylene	91		92		70-130	1		20
cis-1,2-Dichloroethene	90		84		70-130	7		20
Dibromomethane	84		86		70-130	2		20
1,2,3-Trichloropropane	86		96		70-130	11		20
Styrene	92		94		70-130	2		20
Dichlorodifluoromethane	76		**69**	Q	70-130	10		20
Acetone	88		95		70-130	8		20
Carbon disulfide	88		83		70-130	6		20
Methyl ethyl ketone	90		104		70-130	14		20
Methyl isobutyl ketone	84		103		70-130	20		20
2-Hexanone	92		109		70-130	17		20
Bromochloromethane	80		83		70-130	4		20
Tetrahydrofuran	88		98		70-130	11		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05 Batch: WG1870137-3 WG1870137-4								
2,2-Dichloropropane	76		75		70-130	1		20
1,2-Dibromoethane	88		93		70-130	6		20
1,3-Dichloropropane	91		96		70-130	5		20
1,1,1,2-Tetrachloroethane	78		80		70-130	3		20
Bromobenzene	83		88		70-130	6		20
n-Butylbenzene	100		102		70-130	2		20
sec-Butylbenzene	95		98		70-130	3		20
tert-Butylbenzene	91		94		70-130	3		20
o-Chlorotoluene	105		109		70-130	4		20
p-Chlorotoluene	92		95		70-130	3		20
1,2-Dibromo-3-chloropropane	**67**	Q	86		70-130	**25**	Q	20
Hexachlorobutadiene	86		84		70-130	2		20
Isopropylbenzene	93		97		70-130	4		20
p-Isopropyltoluene	93		96		70-130	3		20
Naphthalene	82		89		70-130	8		20
n-Propylbenzene	96		99		70-130	3		20
1,2,3-Trichlorobenzene	83		89		70-130	7		20
1,2,4-Trichlorobenzene	89		92		70-130	3		20
1,3,5-Trimethylbenzene	93		95		70-130	2		20
1,2,4-Trimethylbenzene	92		95		70-130	3		20
Diethyl ether	88		85		70-130	3		20
Diisopropyl Ether	**139**	Q	121		70-130	14		20
Ethyl-Tert-Butyl-Ether	101		96		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05 Batch: WG1870137-3 WG1870137-4								
Tertiary-Amyl Methyl Ether	79		80		70-130	1		20
1,4-Dioxane	**64**	Q	73		70-130	13		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		98		70-130
Toluene-d8	96		103		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	94		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1870177-3 WG1870177-4								
Methylene chloride	72		77		70-130	7		20
1,1-Dichloroethane	83		89		70-130	7		20
Chloroform	95		102		70-130	7		20
Carbon tetrachloride	84		93		70-130	10		20
1,2-Dichloropropane	115		122		70-130	6		20
Dibromochloromethane	99		104		70-130	5		20
1,1,2-Trichloroethane	97		105		70-130	8		20
Tetrachloroethene	94		106		70-130	12		20
Chlorobenzene	91		99		70-130	8		20
Trichlorofluoromethane	**64**	Q	75		70-130	16		20
1,2-Dichloroethane	107		115		70-130	7		20
1,1,1-Trichloroethane	96		105		70-130	9		20
Bromodichloromethane	102		106		70-130	4		20
trans-1,3-Dichloropropene	103		108		70-130	5		20
cis-1,3-Dichloropropene	105		111		70-130	6		20
1,1-Dichloropropene	94		101		70-130	7		20
Bromoform	93		92		70-130	1		20
1,1,2,2-Tetrachloroethane	83		88		70-130	6		20
Benzene	100		107		70-130	7		20
Toluene	91		99		70-130	8		20
Ethylbenzene	94		103		70-130	9		20
Chloromethane	116		126		70-130	8		20
Bromomethane	**63**	Q	**69**	Q	70-130	9		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1870177-3 WG1870177-4								
Vinyl chloride	87		95		70-130	9		20
Chloroethane	**62**	Q	**67**	Q	70-130	8		20
1,1-Dichloroethene	73		79		70-130	8		20
trans-1,2-Dichloroethene	74		77		70-130	4		20
Trichloroethene	97		104		70-130	7		20
1,2-Dichlorobenzene	92		95		70-130	3		20
1,3-Dichlorobenzene	93		96		70-130	3		20
1,4-Dichlorobenzene	93		95		70-130	2		20
Methyl tert butyl ether	77		80		70-130	4		20
p/m-Xylene	97		105		70-130	8		20
o-Xylene	96		103		70-130	7		20
cis-1,2-Dichloroethene	79		83		70-130	5		20
Dibromomethane	96		102		70-130	6		20
1,2,3-Trichloropropane	86		91		70-130	6		20
Styrene	94		100		70-130	6		20
Dichlorodifluoromethane	**53**	Q	**66**	Q	70-130	**22**	Q	20
Acetone	98		111		70-130	12		20
Carbon disulfide	77		84		70-130	9		20
Methyl ethyl ketone	123		126		70-130	2		20
Methyl isobutyl ketone	102		111		70-130	8		20
2-Hexanone	107		111		70-130	4		20
Bromochloromethane	96		101		70-130	5		20
Tetrahydrofuran	117		121		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1870177-3 WG1870177-4								
2,2-Dichloropropane	90		96		70-130	6		20
1,2-Dibromoethane	92		100		70-130	8		20
1,3-Dichloropropane	100		107		70-130	7		20
1,1,1,2-Tetrachloroethane	95		100		70-130	5		20
Bromobenzene	90		95		70-130	5		20
n-Butylbenzene	85		89		70-130	5		20
sec-Butylbenzene	80		86		70-130	7		20
tert-Butylbenzene	88		95		70-130	8		20
o-Chlorotoluene	108		116		70-130	7		20
p-Chlorotoluene	97		102		70-130	5		20
1,2-Dibromo-3-chloropropane	84		89		70-130	6		20
Hexachlorobutadiene	100		104		70-130	4		20
Isopropylbenzene	91		96		70-130	5		20
p-Isopropyltoluene	80		85		70-130	6		20
Naphthalene	93		93		70-130	0		20
n-Propylbenzene	92		99		70-130	7		20
1,2,3-Trichlorobenzene	104		103		70-130	1		20
1,2,4-Trichlorobenzene	106		105		70-130	1		20
1,3,5-Trimethylbenzene	93		99		70-130	6		20
1,2,4-Trimethylbenzene	96		101		70-130	5		20
Diethyl ether	90		93		70-130	3		20
Diisopropyl Ether	112		117		70-130	4		20
Ethyl-Tert-Butyl-Ether	106		112		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376243

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1870177-3 WG1870177-4								
Tertiary-Amyl Methyl Ether	108		113		70-130	5		20
1,4-Dioxane	77		82		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		101		70-130
Toluene-d8	90		91		70-130
4-Bromofluorobenzene	93		93		70-130
Dibromofluoromethane	91		90		70-130

SEMIVOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01
Client ID: HA24-B3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 11:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 01:55
Analyst: EK
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	79	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	79	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	79	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	79	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	810		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	79	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	79	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	79	--	1
Benzo(a)anthracene	500		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01 Date Collected: 12/27/23 11:30

Client ID: HA24-B3_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	530		ug/kg	150	--	1
Benzo(b)fluoranthene	620		ug/kg	110	--	1
Benzo(k)fluoranthene	210		ug/kg	110	--	1
Chrysene	470		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	330		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	240		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	79	--	1
Indeno(1,2,3-cd)pyrene	300		ug/kg	150	--	1
Pyrene	810		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	79	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	79	--	1
2-Chlorophenol	ND		ug/kg	79	--	1
2,4-Dichlorophenol	ND		ug/kg	79	--	1
2,4-Dimethylphenol	ND		ug/kg	79	--	1
2-Nitrophenol	ND		ug/kg	410	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	38	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01 Date Collected: 12/27/23 11:30

Client ID: HA24-B3_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	83		30-130
2-Fluorobiphenyl	79		30-130
2,4,6-Tribromophenol	95		30-130
4-Terphenyl-d14	80		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02
Client ID: HA24-B3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 01/03/24 04:29
Analyst: IM
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 01/02/24 09:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	77	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	77	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	77	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	77	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	1100		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	77	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	77	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	77	--	1
Benzo(a)anthracene	580		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02 Date Collected: 12/27/23 12:00

Client ID: HA24-B3_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	540		ug/kg	150	--	1
Benzo(b)fluoranthene	610		ug/kg	110	--	1
Benzo(k)fluoranthene	160		ug/kg	110	--	1
Chrysene	510		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	150		ug/kg	110	--	1
Benzo(ghi)perylene	320		ug/kg	150	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	490		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	77	--	1
Indeno(1,2,3-cd)pyrene	290		ug/kg	150	--	1
Pyrene	980		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	77	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	77	--	1
2-Chlorophenol	ND		ug/kg	77	--	1
2,4-Dichlorophenol	ND		ug/kg	77	--	1
2,4-Dimethylphenol	ND		ug/kg	77	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	37	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02 Date Collected: 12/27/23 12:00

Client ID: HA24-B3_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		30-130
Phenol-d6	72		30-130
Nitrobenzene-d5	82		30-130
2-Fluorobiphenyl	75		30-130
2,4,6-Tribromophenol	**11**	Q	30-130
4-Terphenyl-d14	79		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03
Client ID: HA24-B3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:10
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/29/23 23:23
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	--	1
Hexachlorobenzene	ND		ug/kg	72	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	72	--	1
2-Chloronaphthalene	ND		ug/kg	170	--	1
1,2-Dichlorobenzene	ND		ug/kg	170	--	1
1,3-Dichlorobenzene	ND		ug/kg	170	--	1
1,4-Dichlorobenzene	ND		ug/kg	72	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	--	1
2,4-Dinitrotoluene	ND		ug/kg	72	--	1
2,6-Dinitrotoluene	ND		ug/kg	170	--	1
Azobenzene	ND		ug/kg	170	--	1
Fluoranthene	180		ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	72	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--	1
Hexachlorobutadiene	ND		ug/kg	170	--	1
Hexachloroethane	ND		ug/kg	72	--	1
Isophorone	ND		ug/kg	150	--	1
Naphthalene	ND		ug/kg	170	--	1
Nitrobenzene	ND		ug/kg	150	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--	1
Butyl benzyl phthalate	ND		ug/kg	170	--	1
Di-n-butylphthalate	ND		ug/kg	170	--	1
Di-n-octylphthalate	ND		ug/kg	170	--	1
Diethyl phthalate	ND		ug/kg	170	--	1
Dimethyl phthalate	ND		ug/kg	72	--	1
Benzo(a)anthracene	ND		ug/kg	100	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03 Date Collected: 12/27/23 12:10

Client ID: HA24-B3_10-15 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	100		ug/kg	100	--	1
Benzo(k)fluoranthene	ND		ug/kg	100	--	1
Chrysene	ND		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	100	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	170	--	1
Phenanthrene	140		ug/kg	100	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	72	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	--	1
Pyrene	160		ug/kg	100	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	170	--	1
Dibenzofuran	ND		ug/kg	170	--	1
2-Methylnaphthalene	ND		ug/kg	72	--	1
Acetophenone	ND		ug/kg	170	--	1
2,4,6-Trichlorophenol	ND		ug/kg	72	--	1
2-Chlorophenol	ND		ug/kg	72	--	1
2,4-Dichlorophenol	ND		ug/kg	72	--	1
2,4-Dimethylphenol	ND		ug/kg	72	--	1
2-Nitrophenol	ND		ug/kg	370	--	1
4-Nitrophenol	ND		ug/kg	240	--	1
2,4-Dinitrophenol	ND		ug/kg	820	--	1
Pentachlorophenol	ND		ug/kg	340	--	1
Phenol	ND		ug/kg	170	--	1
2-Methylphenol	ND		ug/kg	170	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	--	1
2,4,5-Trichlorophenol	ND		ug/kg	170	--	1
Pyridine	ND		ug/kg	180	--	1
Biphenyl	ND		ug/kg	34	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03 Date Collected: 12/27/23 12:10

Client ID: HA24-B3_10-15 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		30-130
Phenol-d6	86		30-130
Nitrobenzene-d5	84		30-130
2-Fluorobiphenyl	81		30-130
2,4,6-Tribromophenol	97		30-130
4-Terphenyl-d14	87		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 D
Client ID: HA24-A1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 06:45
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	700	--	5
1,2,4-Trichlorobenzene	ND		ug/kg	870	--	5
Hexachlorobenzene	ND		ug/kg	360	--	5
Bis(2-chloroethyl)ether	ND		ug/kg	360	--	5
2-Chloronaphthalene	ND		ug/kg	870	--	5
1,2-Dichlorobenzene	ND		ug/kg	870	--	5
1,3-Dichlorobenzene	ND		ug/kg	870	--	5
1,4-Dichlorobenzene	ND		ug/kg	360	--	5
3,3'-Dichlorobenzidine	ND		ug/kg	870	--	5
2,4-Dinitrotoluene	ND		ug/kg	360	--	5
2,6-Dinitrotoluene	ND		ug/kg	870	--	5
Azobenzene	ND		ug/kg	870	--	5
Fluoranthene	1800		ug/kg	520	--	5
4-Bromophenyl phenyl ether	ND		ug/kg	870	--	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	360	--	5
Bis(2-chloroethoxy)methane	ND		ug/kg	940	--	5
Hexachlorobutadiene	ND		ug/kg	870	--	5
Hexachloroethane	ND		ug/kg	360	--	5
Isophorone	ND		ug/kg	780	--	5
Naphthalene	ND		ug/kg	870	--	5
Nitrobenzene	ND		ug/kg	780	--	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	870	--	5
Butyl benzyl phthalate	ND		ug/kg	870	--	5
Di-n-butylphthalate	ND		ug/kg	870	--	5
Di-n-octylphthalate	ND		ug/kg	870	--	5
Diethyl phthalate	ND		ug/kg	870	--	5
Dimethyl phthalate	ND		ug/kg	360	--	5
Benzo(a)anthracene	980		ug/kg	520	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 D Date Collected: 12/27/23 12:30

Client ID: HA24-A1_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1200		ug/kg	700	--	5
Benzo(b)fluoranthene	1600		ug/kg	520	--	5
Benzo(k)fluoranthene	ND		ug/kg	520	--	5
Chrysene	1000		ug/kg	520	--	5
Acenaphthylene	ND		ug/kg	700	--	5
Anthracene	ND		ug/kg	520	--	5
Benzo(ghi)perylene	740		ug/kg	700	--	5
Fluorene	ND		ug/kg	870	--	5
Phenanthrene	760		ug/kg	520	--	5
Dibenzo(a,h)anthracene	ND		ug/kg	360	--	5
Indeno(1,2,3-cd)pyrene	ND		ug/kg	700	--	5
Pyrene	1600		ug/kg	520	--	5
Aniline	ND		ug/kg	1000	--	5
4-Chloroaniline	ND		ug/kg	870	--	5
Dibenzofuran	ND		ug/kg	870	--	5
2-Methylnaphthalene	ND		ug/kg	360	--	5
Acetophenone	ND		ug/kg	870	--	5
2,4,6-Trichlorophenol	ND		ug/kg	360	--	5
2-Chlorophenol	ND		ug/kg	360	--	5
2,4-Dichlorophenol	ND		ug/kg	360	--	5
2,4-Dimethylphenol	ND		ug/kg	360	--	5
2-Nitrophenol	ND		ug/kg	1900	--	5
4-Nitrophenol	ND		ug/kg	1200	--	5
2,4-Dinitrophenol	ND		ug/kg	4200	--	5
Pentachlorophenol	ND		ug/kg	1700	--	5
Phenol	ND		ug/kg	870	--	5
2-Methylphenol	ND		ug/kg	870	--	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1200	--	5
2,4,5-Trichlorophenol	ND		ug/kg	870	--	5
Pyridine	ND		ug/kg	940	--	5
Biphenyl	ND		ug/kg	170	--	5

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04 D Date Collected: 12/27/23 12:30

Client ID: HA24-A1_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		30-130
Phenol-d6	48		30-130
Nitrobenzene-d5	50		30-130
2-Fluorobiphenyl	56		30-130
2,4,6-Tribromophenol	54		30-130
4-Terphenyl-d14	52		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05
Client ID: HA24-A1_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:40
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 04:45
Analyst: EK
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	220		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	78	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	78	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	78	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	78	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	3700		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	78	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	78	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	78	--	1
Benzo(a)anthracene	1600		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05 Date Collected: 12/27/23 12:40

Client ID: HA24-A1_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1600		ug/kg	150	--	1
Benzo(b)fluoranthene	1900		ug/kg	110	--	1
Benzo(k)fluoranthene	600		ug/kg	110	--	1
Chrysene	1500		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	580		ug/kg	110	--	1
Benzo(ghi)perylene	750		ug/kg	150	--	1
Fluorene	200		ug/kg	190	--	1
Phenanthrene	2600		ug/kg	110	--	1
Dibenzo(a,h)anthracene	160		ug/kg	78	--	1
Indeno(1,2,3-cd)pyrene	700		ug/kg	150	--	1
Pyrene	3100		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	78	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	78	--	1
2-Chlorophenol	ND		ug/kg	78	--	1
2,4-Dichlorophenol	ND		ug/kg	78	--	1
2,4-Dimethylphenol	ND		ug/kg	78	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	37	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID:	L2376243-05	Date Collected:	12/27/23 12:40
Client ID:	HA24-A1_5-10	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		30-130
Phenol-d6	75		30-130
Nitrobenzene-d5	73		30-130
2-Fluorobiphenyl	71		30-130
2,4,6-Tribromophenol	88		30-130
4-Terphenyl-d14	67		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:00
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03-05 Batch: WG1869297-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:00
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03-05 Batch: WG1869297-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:00
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03-05 Batch: WG1869297-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		30-130
Phenol-d6	86		30-130
Nitrobenzene-d5	82		30-130
2-Fluorobiphenyl	80		30-130
2,4,6-Tribromophenol	89		30-130
4-Terphenyl-d14	93		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/02/24 20:50
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 01/02/24 09:13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1870037-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/02/24 20:50
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 01/02/24 09:13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1870037-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/02/24 20:50
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 01/02/24 09:13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1870037-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	79		30-130
2-Fluorobiphenyl	78		30-130
2,4,6-Tribromophenol	88		30-130
4-Terphenyl-d14	82		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03-05 Batch: WG1869297-2 WG1869297-3								
Acenaphthene	59		53		40-140	11		30
1,2,4-Trichlorobenzene	64		57		40-140	12		30
Hexachlorobenzene	68		59		40-140	14		30
Bis(2-chloroethyl)ether	64		56		40-140	13		30
2-Chloronaphthalene	67		61		40-140	9		30
1,2-Dichlorobenzene	60		55		40-140	9		30
1,3-Dichlorobenzene	59		53		40-140	11		30
1,4-Dichlorobenzene	59		54		40-140	9		30
3,3'-Dichlorobenzidine	63		54		40-140	15		30
2,4-Dinitrotoluene	64		57		40-140	12		30
2,6-Dinitrotoluene	80		72		40-140	11		30
Azobenzene	61		54		40-140	12		30
Fluoranthene	67		58		40-140	14		30
4-Bromophenyl phenyl ether	68		59		40-140	14		30
Bis(2-chloroisopropyl)ether	60		54		40-140	11		30
Bis(2-chloroethoxy)methane	65		58		40-140	11		30
Hexachlorobutadiene	65		59		40-140	10		30
Hexachloroethane	58		53		40-140	9		30
Isophorone	65		58		40-140	11		30
Naphthalene	63		57		40-140	10		30
Nitrobenzene	66		60		40-140	10		30
Bis(2-ethylhexyl)phthalate	70		65		40-140	7		30
Butyl benzyl phthalate	76		64		40-140	17		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03-05 Batch: WG1869297-2 WG1869297-3								
Di-n-butylphthalate	68		59		40-140	14		30
Di-n-octylphthalate	70		61		40-140	14		30
Diethyl phthalate	66		57		40-140	15		30
Dimethyl phthalate	69		61		40-140	12		30
Benzo(a)anthracene	64		58		40-140	10		30
Benzo(a)pyrene	69		65		40-140	6		30
Benzo(b)fluoranthene	65		57		40-140	13		30
Benzo(k)fluoranthene	58		58		40-140	0		30
Chrysene	62		56		40-140	10		30
Acenaphthylene	67		60		40-140	11		30
Anthracene	66		58		40-140	13		30
Benzo(ghi)perylene	57		53		40-140	7		30
Fluorene	63		55		40-140	14		30
Phenanthrene	62		56		40-140	10		30
Dibenzo(a,h)anthracene	58		54		40-140	7		30
Indeno(1,2,3-cd)pyrene	58		54		40-140	7		30
Pyrene	67		58		40-140	14		30
Aniline	62		56		40-140	10		30
4-Chloroaniline	52		41		40-140	24		30
Dibenzofuran	62		56		40-140	10		30
2-Methylnaphthalene	66		59		40-140	11		30
Acetophenone	72		66		40-140	9		30
2,4,6-Trichlorophenol	78		70		30-130	11		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376243

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03-05 Batch: WG1869297-2 WG1869297-3								
2-Chlorophenol	66		60		30-130	10		30
2,4-Dichlorophenol	72		65		30-130	10		30
2,4-Dimethylphenol	68		61		30-130	11		30
2-Nitrophenol	83		75		30-130	10		30
4-Nitrophenol	62		55		30-130	12		30
2,4-Dinitrophenol	38		38		30-130	0		30
Pentachlorophenol	68		58		30-130	16		30
Phenol	74		67		30-130	10		30
2-Methylphenol	65		60		30-130	8		30
3-Methylphenol/4-Methylphenol	67		60		30-130	11		30
2,4,5-Trichlorophenol	76		68		30-130	11		30
Pyridine	42		37		30-130	13		30
Biphenyl	70		63		40-140	11		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	69		68		30-130
Phenol-d6	72		70		30-130
Nitrobenzene-d5	70		67		30-130
2-Fluorobiphenyl	67		64		30-130
2,4,6-Tribromophenol	84		79		30-130
4-Terphenyl-d14	69		64		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1870037-2 WG1870037-3								
Acenaphthene	56		58		40-140	4		30
1,2,4-Trichlorobenzene	58		60		40-140	3		30
Hexachlorobenzene	60		62		40-140	3		30
Bis(2-chloroethyl)ether	59		58		40-140	2		30
2-Chloronaphthalene	60		63		40-140	5		30
1,2-Dichlorobenzene	56		57		40-140	2		30
1,3-Dichlorobenzene	55		56		40-140	2		30
1,4-Dichlorobenzene	56		57		40-140	2		30
3,3'-Dichlorobenzidine	46		58		40-140	23		30
2,4-Dinitrotoluene	59		60		40-140	2		30
2,6-Dinitrotoluene	70		76		40-140	8		30
Azobenzene	58		62		40-140	7		30
Fluoranthene	60		64		40-140	6		30
4-Bromophenyl phenyl ether	60		63		40-140	5		30
Bis(2-chloroisopropyl)ether	57		59		40-140	3		30
Bis(2-chloroethoxy)methane	58		62		40-140	7		30
Hexachlorobutadiene	58		61		40-140	5		30
Hexachloroethane	55		57		40-140	4		30
Isophorone	60		63		40-140	5		30
Naphthalene	57		60		40-140	5		30
Nitrobenzene	63		64		40-140	2		30
Bis(2-ethylhexyl)phthalate	60		65		40-140	8		30
Butyl benzyl phthalate	66		72		40-140	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1870037-2 WG1870037-3								
Di-n-butylphthalate	60		64		40-140	6		30
Di-n-octylphthalate	61		67		40-140	9		30
Diethyl phthalate	58		62		40-140	7		30
Dimethyl phthalate	59		65		40-140	10		30
Benzo(a)anthracene	60		63		40-140	5		30
Benzo(a)pyrene	70		72		40-140	3		30
Benzo(b)fluoranthene	60		68		40-140	13		30
Benzo(k)fluoranthene	65		62		40-140	5		30
Chrysene	59		63		40-140	7		30
Acenaphthylene	59		62		40-140	5		30
Anthracene	61		64		40-140	5		30
Benzo(ghi)perylene	56		59		40-140	5		30
Fluorene	57		60		40-140	5		30
Phenanthrene	59		62		40-140	5		30
Dibenzo(a,h)anthracene	56		60		40-140	7		30
Indeno(1,2,3-cd)pyrene	57		60		40-140	5		30
Pyrene	61		64		40-140	5		30
Aniline	44		50		40-140	13		30
4-Chloroaniline	**30**	Q	**36**	Q	40-140	18		30
Dibenzofuran	57		60		40-140	5		30
2-Methylnaphthalene	59		63		40-140	7		30
Acetophenone	67		69		40-140	3		30
2,4,6-Trichlorophenol	68		76		30-130	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1870037-2 WG1870037-3								
2-Chlorophenol	63		64		30-130	2		30
2,4-Dichlorophenol	67		69		30-130	3		30
2,4-Dimethylphenol	62		66		30-130	6		30
2-Nitrophenol	77		79		30-130	3		30
4-Nitrophenol	60		62		30-130	3		30
2,4-Dinitrophenol	46		54		30-130	16		30
Pentachlorophenol	60		67		30-130	11		30
Phenol	69		70		30-130	1		30
2-Methylphenol	62		65		30-130	5		30
3-Methylphenol/4-Methylphenol	62		64		30-130	3		30
2,4,5-Trichlorophenol	66		70		30-130	6		30
Pyridine	42		45		30-130	7		30
Biphenyl	62		65		40-140	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	69		68		30-130
Phenol-d6	71		71		30-130
Nitrobenzene-d5	68		69		30-130
2-Fluorobiphenyl	60		64		30-130
2,4,6-Tribromophenol	78		81		30-130
4-Terphenyl-d14	65		68		30-130

PETROLEUM HYDROCARBONS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01
Client ID: HA24-B3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 11:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 18:20
Analyst: ALL
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 00:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	273000		ug/kg	37300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02
Client ID: HA24-B3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 18:55
Analyst: ALL
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 00:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	168000		ug/kg	36200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	80		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03
Client ID: HA24-B3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:10
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 17:45
Analyst: ALL
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 00:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	33200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	96		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04
Client ID: HA24-A1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 21:14
Analyst: ALL
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 00:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	385000		ug/kg	34400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	49		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05
Client ID: HA24-A1_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:40
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 21:49
Analyst: ALL
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 00:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	257000		ug/kg	36500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	67		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 15:26
Analyst: ALL

Extraction Method: EPA 3546
Extraction Date: 12/29/23 10:03

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-05 Batch: WG1869256-1					
TPH (C10-C36)	ND		ug/kg	32100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	71		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376243

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-05 Batch: WG1869256-2								
TPH (C10-C36)	80		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	62				40-140

PCBS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01
Client ID: HA24-B3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 11:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/30/23 15:38
Analyst: EMR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 17:47
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	56.4	--	1	A
Aroclor 1221	ND		ug/kg	56.4	--	1	A
Aroclor 1232	ND		ug/kg	56.4	--	1	A
Aroclor 1242	ND		ug/kg	56.4	--	1	A
Aroclor 1248	ND		ug/kg	56.4	--	1	A
Aroclor 1254	ND		ug/kg	56.4	--	1	A
Aroclor 1260	ND		ug/kg	56.4	--	1	A
Aroclor 1262	ND		ug/kg	56.4	--	1	A
Aroclor 1268	ND		ug/kg	56.4	--	1	A
PCBs, Total	ND		ug/kg	56.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	62		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02
Client ID: HA24-B3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/30/23 15:46
Analyst: EMR
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 17:47
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	52.9	--	1	A
Aroclor 1221	ND		ug/kg	52.9	--	1	A
Aroclor 1232	ND		ug/kg	52.9	--	1	A
Aroclor 1242	ND		ug/kg	52.9	--	1	A
Aroclor 1248	ND		ug/kg	52.9	--	1	A
Aroclor 1254	ND		ug/kg	52.9	--	1	B
Aroclor 1260	ND		ug/kg	52.9	--	1	A
Aroclor 1262	ND		ug/kg	52.9	--	1	A
Aroclor 1268	ND		ug/kg	52.9	--	1	A
PCBs, Total	ND		ug/kg	52.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03
Client ID: HA24-B3_10-15
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/30/23 15:54
Analyst: EMR
Percent Solids: 95%

Date Collected: 12/27/23 12:10
Date Received: 12/27/23
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 12/29/23 17:47
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	48.3	--	1	A
Aroclor 1221	ND		ug/kg	48.3	--	1	A
Aroclor 1232	ND		ug/kg	48.3	--	1	A
Aroclor 1242	ND		ug/kg	48.3	--	1	A
Aroclor 1248	ND		ug/kg	48.3	--	1	A
Aroclor 1254	ND		ug/kg	48.3	--	1	B
Aroclor 1260	ND		ug/kg	48.3	--	1	B
Aroclor 1262	ND		ug/kg	48.3	--	1	A
Aroclor 1268	ND		ug/kg	48.3	--	1	A
PCBs, Total	ND		ug/kg	48.3	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	67		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04
Client ID: HA24-A1_0-5
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/30/23 16:02
Analyst: EMR
Percent Solids: 94%

Date Collected: 12/27/23 12:30
Date Received: 12/27/23
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 12/29/23 17:47
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	50.5	--	1	A
Aroclor 1221	ND		ug/kg	50.5	--	1	A
Aroclor 1232	ND		ug/kg	50.5	--	1	A
Aroclor 1242	ND		ug/kg	50.5	--	1	A
Aroclor 1248	ND		ug/kg	50.5	--	1	A
Aroclor 1254	ND		ug/kg	50.5	--	1	A
Aroclor 1260	ND		ug/kg	50.5	--	1	A
Aroclor 1262	ND		ug/kg	50.5	--	1	A
Aroclor 1268	ND		ug/kg	50.5	--	1	A
PCBs, Total	ND		ug/kg	50.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	44		30-150	A
Decachlorobiphenyl	41		30-150	A
2,4,5,6-Tetrachloro-m-xylene	46		30-150	B
Decachlorobiphenyl	39		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05
Client ID: HA24-A1_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:40
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/30/23 16:10
Analyst: EMR
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 17:47
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	54.4	--	1	A
Aroclor 1221	ND		ug/kg	54.4	--	1	A
Aroclor 1232	ND		ug/kg	54.4	--	1	A
Aroclor 1242	ND		ug/kg	54.4	--	1	A
Aroclor 1248	ND		ug/kg	54.4	--	1	A
Aroclor 1254	ND		ug/kg	54.4	--	1	A
Aroclor 1260	ND		ug/kg	54.4	--	1	A
Aroclor 1262	ND		ug/kg	54.4	--	1	A
Aroclor 1268	ND		ug/kg	54.4	--	1	A
PCBs, Total	ND		ug/kg	54.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	66		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/30/23 14:11
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 12/29/23 12:27
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-05 Batch: WG1869480-1						
Aroclor 1016	ND		ug/kg	48.0	--	A
Aroclor 1221	ND		ug/kg	48.0	--	A
Aroclor 1232	ND		ug/kg	48.0	--	A
Aroclor 1242	ND		ug/kg	48.0	--	A
Aroclor 1248	ND		ug/kg	48.0	--	A
Aroclor 1254	ND		ug/kg	48.0	--	A
Aroclor 1260	ND		ug/kg	48.0	--	A
Aroclor 1262	ND		ug/kg	48.0	--	A
Aroclor 1268	ND		ug/kg	48.0	--	A
PCBs, Total	ND		ug/kg	48.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	56		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	64		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376243

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-05 Batch: WG1869480-2 WG1869480-3									
Aroclor 1016	71		84		40-140	17		30	A
Aroclor 1260	61		70		40-140	14		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		77		30-150	A
Decachlorobiphenyl	53		60		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		75		30-150	B
Decachlorobiphenyl	61		66		30-150	B

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01
Client ID: HA24-B3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 11:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.26	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Arsenic, Total	9.06		mg/kg	0.452	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Barium, Total	42.7		mg/kg	0.452	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Beryllium, Total	0.765		mg/kg	0.226	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Cadmium, Total	0.537		mg/kg	0.452	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Chromium, Total	27.0		mg/kg	0.452	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Lead, Total	22.3		mg/kg	2.26	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Mercury, Total	ND		mg/kg	0.086	--	1	12/29/23 02:50	12/29/23 21:00	EPA 7471B	97,7471B	GMG
Nickel, Total	23.0		mg/kg	1.13	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.26	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.452	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.26	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Vanadium, Total	31.4		mg/kg	0.452	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA
Zinc, Total	69.6		mg/kg	2.26	--	1	12/29/23 02:20	12/31/23 16:38	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02
Client ID: HA24-B3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Arsenic, Total	5.08		mg/kg	0.435	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Barium, Total	149		mg/kg	0.435	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Beryllium, Total	0.472		mg/kg	0.217	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Cadmium, Total	0.515		mg/kg	0.435	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Chromium, Total	18.9		mg/kg	0.435	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Lead, Total	260		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Mercury, Total	ND		mg/kg	0.084	--	1	12/29/23 02:50	12/29/23 21:03	EPA 7471B	97,7471B	GMG
Nickel, Total	10.1		mg/kg	1.09	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.435	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Vanadium, Total	16.7		mg/kg	0.435	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA
Zinc, Total	146		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:23	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03
Client ID: HA24-B3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:10
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.06	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Arsenic, Total	4.54		mg/kg	0.412	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Barium, Total	25.8		mg/kg	0.412	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Beryllium, Total	0.358		mg/kg	0.206	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Cadmium, Total	0.789		mg/kg	0.412	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Chromium, Total	11.7		mg/kg	0.412	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Lead, Total	57.0		mg/kg	2.06	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Mercury, Total	0.130		mg/kg	0.080	--	1	12/29/23 02:50	12/29/23 21:07	EPA 7471B	97,7471B	GMG
Nickel, Total	8.95		mg/kg	1.03	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.06	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.412	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.06	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Vanadium, Total	16.1		mg/kg	0.412	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA
Zinc, Total	80.0		mg/kg	2.06	--	1	12/29/23 02:20	12/31/23 17:28	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04
Client ID: HA24-A1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.11	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Arsenic, Total	5.92		mg/kg	0.423	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Barium, Total	29.9		mg/kg	0.423	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Beryllium, Total	0.424		mg/kg	0.211	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Cadmium, Total	ND		mg/kg	0.423	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Chromium, Total	14.7		mg/kg	0.423	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Lead, Total	50.9		mg/kg	2.11	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Mercury, Total	ND		mg/kg	0.076	--	1	12/29/23 02:50	12/29/23 21:17	EPA 7471B	97,7471B	GMG
Nickel, Total	9.95		mg/kg	1.06	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.11	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.423	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.11	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Vanadium, Total	23.4		mg/kg	0.423	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA
Zinc, Total	61.3		mg/kg	2.11	--	1	12/29/23 02:20	12/31/23 17:33	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376243
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05
Client ID: HA24-A1_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:40
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.21	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Arsenic, Total	5.13		mg/kg	0.442	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Barium, Total	134		mg/kg	0.442	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Beryllium, Total	0.361		mg/kg	0.221	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Cadmium, Total	0.865		mg/kg	0.442	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Chromium, Total	13.1		mg/kg	0.442	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Lead, Total	1470		mg/kg	2.21	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Mercury, Total	0.293		mg/kg	0.084	--	1	12/29/23 02:50	12/29/23 21:20	EPA 7471B	97,7471B	GMG
Nickel, Total	8.91		mg/kg	1.10	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.21	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.442	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.21	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Vanadium, Total	18.0		mg/kg	0.442	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA
Zinc, Total	269		mg/kg	2.21	--	1	12/29/23 02:20	12/31/23 17:37	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1869072-1										
Antimony, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Arsenic, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Barium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Beryllium, Total	ND		mg/kg	0.200	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Cadmium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Chromium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Lead, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Nickel, Total	ND		mg/kg	1.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Silver, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Vanadium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Zinc, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1869074-1										
Mercury, Total	ND		mg/kg	0.083	--	1	12/29/23 02:50	12/29/23 20:37	97,7471B	GMG

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1869072-2 WG1869072-3 SRM Lot Number: D122-540								
Antimony, Total	170		185		6-194	8		30
Arsenic, Total	106		106		81-119	0		30
Barium, Total	101		96		83-117	5		30
Beryllium, Total	106		103		83-117	3		30
Cadmium, Total	100		101		83-117	1		30
Chromium, Total	103		104		82-118	1		30
Lead, Total	103		102		83-117	1		30
Nickel, Total	104		105		83-117	1		30
Selenium, Total	107		108		81-119	1		30
Silver, Total	105		106		80-120	1		30
Thallium, Total	101		103		81-119	2		30
Vanadium, Total	98		98		80-120	0		30
Zinc, Total	102		103		82-119	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1869074-2 WG1869074-3 SRM Lot Number: D122-540								
Mercury, Total	92		91		73-127	1		30

INORGANICS
&
MISCELLANEOUS

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376243-01	Date Collected:	12/27/23 11:30
Client ID:	HA24-B3_0-5	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Clay
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376243-02	Date Collected:	12/27/23 12:00
Client ID:	HA24-B3_5-10	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376243-03	Date Collected:	12/27/23 12:10
Client ID:	HA24-B3_10-15	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:28	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376243-04	Date Collected:	12/27/23 12:30
Client ID:	HA24-A1_0-5	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:29	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376243-05	Date Collected:	12/27/23 12:40
Client ID:	HA24-A1_5-10	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:29	1,1030	GEF

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-01
Client ID: HA24-B3_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 11:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	480		umhos/cm	10	--	1	-	01/02/24 21:38	1,9050A	AAS
Solids, Total	87.6		%	0.100	NA	1	-	12/27/23 21:01	121,2540G	WJM
pH (H)	8.05		SU	-	NA	1	-	01/02/24 20:04	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/30/23 10:30	12/30/23 13:43	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/30/23 10:30	12/30/23 14:02	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-02
Client ID: HA24-B3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	920		umhos/cm	10	--	1	-	01/02/24 21:38	1,9050A	AAS
Solids, Total	90.0		%	0.100	NA	1	-	12/27/23 21:01	121,2540G	WJM
pH (H)	11.1		SU	-	NA	1	-	01/02/24 20:04	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/30/23 10:30	12/30/23 13:43	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/30/23 10:30	12/30/23 14:02	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-03
Client ID: HA24-B3_10-15
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:10
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	360		umhos/cm	10	--	1	-	01/02/24 21:38	1,9050A	AAS
Solids, Total	95.2		%	0.100	NA	1	-	12/27/23 21:01	121,2540G	WJM
pH (H)	8.72		SU	-	NA	1	-	01/02/24 20:04	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/30/23 10:30	12/30/23 13:43	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/30/23 10:30	12/30/23 14:02	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-04
Client ID: HA24-A1_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	140		umhos/cm	10	--	1	-	01/02/24 21:38	1,9050A	AAS
Solids, Total	94.1		%	0.100	NA	1	-	12/27/23 21:01	121,2540G	WJM
pH (H)	9.90		SU	-	NA	1	-	01/02/24 20:04	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/30/23 10:30	12/30/23 13:44	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/30/23 10:30	12/30/23 14:02	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376243-05
Client ID: HA24-A1_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:40
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	290		umhos/cm	10	--	1	-	01/02/24 21:38	1,9050A	AAS
Solids, Total	87.3		%	0.100	NA	1	-	12/27/23 21:01	121,2540G	WJM
pH (H)	8.60		SU	-	NA	1	-	01/02/24 20:04	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/30/23 10:30	12/30/23 13:44	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/30/23 10:30	12/30/23 14:03	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376243

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1869728-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	12/30/23 10:30	12/30/23 13:42	125,7.3	JLB
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1869730-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	12/30/23 10:30	12/30/23 13:57	125,7.3	JLB

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1869728-2								
Cyanide, Reactive	85		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1869730-2								
Sulfide, Reactive	69		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1870293-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1870295-1								
Specific Conductance	99		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376243

Report Date: 01/03/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1870293-2 QC Sample: L2376243-01 Client ID: HA24-B3_0-5						
pH (H)	8.05	8.82	SU	**9**	Q	5
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1870295-2 QC Sample: L2376243-01 Client ID: HA24-B3_0-5						
Specific Conductance @ 25 C	480	580	umhos/cm	19		20

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376243-01A	Vial MeOH preserved	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-01B	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-01C	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-01D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L2376243-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376243-01F	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-01G	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376243-01H	Glass 250ml/8oz unpreserved	A	NA		3.8	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376243-01I	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376243-02A	Vial MeOH preserved	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-02B	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-02C	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-02D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376243
Report Date: 01/03/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376243-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376243-02F	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-02G	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376243-02H	Glass 250ml/8oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376243-02I	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376243-03A	Vial MeOH preserved	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-03B	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-03C	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-03D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L2376243-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376243-03F	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-03G	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376243-03H	Glass 250ml/8oz unpreserved	A	NA		3.8	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376243-03I	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376243-04A	Vial MeOH preserved	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-04B	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-04C	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-04D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376243-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2376243-04F	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-04G	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376243-04H	Glass 250ml/8oz unpreserved	A	NA		3.8	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376243-04I	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376243-05A	Vial MeOH preserved	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-05B	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-05C	Vial water preserved	A	NA		3.8	Y	Absent	27-DEC-23 19:25	MCP-8260HLW-21(14)
L2376243-05D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L2376243-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376243-05F	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		MCP-8260HLW-21(14)
L2376243-05G	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376243-05H	Glass 250ml/8oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376243-05I	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8082-10(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376243
Project Number:	134206-012	**Report Date:**	01/03/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 12/27/23

ALPHA Job #: L2376243

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project #: 134206-012
(Use Project name as Project #) ☐
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard
☐ Rush (only if pre-approved)
Due Date:
# of Days: 5

Deliverables

☑ Email
☐ Fax
☐ EQuIS (1 File)
☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	VOCs	SVOCs	MCP 14 Metals	PCBs	TPH	Waste Characteristics (1)	Herbicides / Pesticides		Sample Specific Comments	Total Bottles
76243-01	HA24-B3_0-5	12/27/23		SO	CFT	5	X	X	X	X	X	X				
02	HA24-B3_5-10	↓		↓	↓	16	X	X	X	X	X	X				
03	HA24-B3_10-15	↓		↓	↓	15	X	X	X	X	X	X				
04	HA24-A1_0-5	↓		↓	↓	5	X	X	X	X	X	X				
05	HA24-A1_5-10	↓		↓	↓	16	X	X	X	X	X	X				

	VOCs	SVOCs	MCP 14 Metals	PCBs	TPH	Waste Characteristics (1)	Herbicides / Pesticides
Container Type	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
C.F. Tierney CFT	12/27/23 14:00	[signature]	14:00 12/27
[signature]	12/27/23 1445	[signature] AAL	12-27-23 1445
[signature] AAL	12-27-23 1750	[signature]	12/27 1750

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2376243
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1870137-5	**Lab File ID**	: V29231231A05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 12/31/23 13:31

Client Sample No.	Lab Sample ID	Analysis Date
WG1870137-3LCS	WG1870137-3	12/31/23 12:07
WG1870137-4LCSD	WG1870137-4	12/31/23 12:28
HA24-B3_5-10	L2376243-02	12/31/23 13:51
HA24-B3_10-15	L2376243-03	12/31/23 14:12
HA24-A1_0-5	L2376243-04	12/31/23 14:33
HA24-A1_5-10	L2376243-05	12/31/23 14:54
HA24-B3_0-5	L2376243-01	12/31/23 15:36

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2376243
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1870177-5	**Lab File ID**	: V27240102A05
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 01/02/24 10:43

Client Sample No.	Lab Sample ID	Analysis Date
WG1870177-3LCS	WG1870177-3	01/02/24 09:41
WG1870177-4LCSD	WG1870177-4	01/02/24 11:45
HA24-A1_0-5	L2376243-04R	01/02/24 16:55

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376243
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	93	0
Dichlorodifluoromethane	0.332	0.251	-	24.4*	20	66	0
Chloromethane	0.42	0.454	-	-8.1	20	95	0
Vinyl chloride	0.377	0.365	-	3.2	20	85	0
Bromomethane	0.185	0.157	-	15.1	20	83	0
Chloroethane	0.206	0.208	-	-1	20	88	0
Trichlorofluoromethane	0.367	0.346	-	5.7	20	82	0
Ethyl ether	0.13	0.115	-	11.5	20	80	0
1,1-Dichloroethene	0.225	0.201	-	10.7	20	79	0
Carbon disulfide	0.786	0.689	-	12.3	20	76	0
Freon-113	0.237	0.231	-	2.5	20	82	0
Acrolein	40	36.269	-	9.3	20	86	0
Methylene chloride	40	34.727	-	13.2	20	77	0
Acetone	40	35.277	-	11.8	20	85	-.01
trans-1,2-Dichloroethene	0.255	0.219	-	14.1	20	76	0
Methyl acetate	0.254	0.227	-	10.6	20	89	0
Methyl tert-butyl ether	0.671	0.595	-	11.3	20	76	-.01
tert-Butyl alcohol	0.045	0.03	-	33.3*	20	66	-.02
Diisopropyl ether	1.023	1.424	-	-39.2*	20	118	-.01
1,1-Dichloroethane	0.563	0.563	-	0	20	89	0
Halothane	0.193	0.18	-	6.7	20	82	0
Acrylonitrile	0.108	0.113	-	-4.6	20	100	0
Ethyl tert-butyl ether	0.907	0.917	-	-1.1	20	85	-.01
Vinyl acetate	0.658	0.703	-	-6.8	20	93	0
cis-1,2-Dichloroethene	0.289	0.261	-	9.7	20	79	0
2,2-Dichloropropane	0.35	0.267	-	23.7*	20	68	-.01
Bromochloromethane	0.134	0.107	-	20.1*	20	72	0
Cyclohexane	0.555	0.636	-	-14.6	20	95	0
Chloroform	0.485	0.423	-	12.8	20	76	-.01
Ethyl acetate	0.302	0.283	-	6.3	20	83	0
Carbon tetrachloride	0.313	0.275	-	12.1	20	75	0
Tetrahydrofuran	0.112	0.099	-	11.6	20	84	0
Dibromofluoromethane	0.252	0.237	-	6	20	88	0
1,1,1-Trichloroethane	0.381	0.343	-	10	20	74	0
2-Butanone	0.151	0.136	-	9.9	20	85	0
1,1-Dichloropropene	0.343	0.339	-	1.2	20	81	0
Benzene	0.99	0.921	-	7	20	78	0
tert-Amyl methyl ether	0.633	0.499	-	21.2*	20	67	0
1,2-Dichloroethane-d4	0.321	0.328	-	-2.2	20	97	0
1,2-Dichloroethane	0.417	0.385	-	7.7	20	81	0
Methyl cyclohexane	0.428	0.421	-	1.6	20	81	0
Trichloroethene	0.26	0.245	-	5.8	20	77	0
Dibromomethane	0.162	0.136	-	16	20	75	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376243
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.306	0.301	-	1.6	20	84	0
2-Chloroethyl vinyl ether	0.184	0.137	-	25.5*	20	64	-.03
Bromodichloromethane	0.336	0.3*	-	10.7	20	75	0
1,4-Dioxane	0.00323	0.00207*	-	35.9*	20	59	0
cis-1,3-Dichloropropene	0.366	0.319	-	12.8	20	70	0
Chlorobenzene-d5	1	1	-	0	20	92	0
Toluene-d8	1.302	1.256	-	3.5	20	89	0
Toluene	0.875	0.78	-	10.9	20	77	0
4-Methyl-2-pentanone	0.155	0.13	-	16.1	20	71	0
Tetrachloroethene	0.338	0.305	-	9.8	20	74	0
trans-1,3-Dichloropropene	0.445	0.358	-	19.6	20	68	0
Ethyl methacrylate	0.351	0.299	-	14.8	20	72	0
1,1,2-Trichloroethane	0.248	0.219	-	11.7	20	76	0
Chlorodibromomethane	0.307	0.26	-	15.3	20	70	0
1,3-Dichloropropane	0.508	0.463	-	8.9	20	77	0
1,2-Dibromoethane	0.274	0.242	-	11.7	20	73	0
2-Hexanone	0.275	0.254	-	7.6	20	80	0
Chlorobenzene	0.945	0.831	-	12.1	20	75	0
Ethylbenzene	1.663	1.52	-	8.6	20	78	0
1,1,1,2-Tetrachloroethane	40	31.042	-	22.4*	20	71	0
p/m Xylene	0.625	0.567	-	9.3	20	77	0
o Xylene	0.606	0.55	-	9.2	20	77	0
Styrene	0.997	0.916	-	8.1	20	75	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	93	0
Bromoform	0.388	0.292	-	24.7*	20	64	0
Isopropylbenzene	3.156	2.927	-	7.3	20	77	0
4-Bromofluorobenzene	0.963	0.935	-	2.9	20	89	0
Bromobenzene	0.786	0.652	-	17	20	71	0
n-Propylbenzene	3.818	3.675	-	3.7	20	81	0
1,4-Dichlorobutane	1.245	1.244	-	0.1	20	86	0
1,1,2,2-Tetrachloroethane	0.713	0.63	-	11.6	20	73	0
4-Ethyltoluene	3.149	2.973	-	5.6	20	78	0
2-Chlorotoluene	2.37	2.494	-	-5.2	20	90	0
1,3,5-Trimethylbenzene	2.79	2.59	-	7.2	20	77	0
1,2,3-Trichloropropane	0.642	0.549	-	14.5	20	74	0
trans-1,4-Dichloro-2-buten	0.263	0.24	-	8.7	20	82	0
4-Chlorotoluene	2.434	2.242	-	7.9	20	78	0
tert-Butylbenzene	2.31	2.102	-	9	20	77	0
1,2,4-Trimethylbenzene	2.69	2.487	-	7.5	20	77	0
sec-Butylbenzene	3.438	3.274	-	4.8	20	79	0
p-Isopropyltoluene	2.933	2.741	-	6.5	20	78	0
1,3-Dichlorobenzene	1.526	1.305	-	14.5	20	73	0
1,4-Dichlorobenzene	1.552	1.318	-	15.1	20	74	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376243
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.805	1.673	-	7.3	20	77	0
n-Butylbenzene	2.679	2.679	-	0	20	82	0
1,2-Dichlorobenzene	1.438	1.22	-	15.2	20	73	0
1,2,4,5-Tetramethylbenzene	2.739	2.53	-	7.6	20	76	0
1,2-Dibromo-3-chloropropan	0.115	0.077	-	33*	20	60	0
1,3,5-Trichlorobenzene	1.142	0.994	-	13	20	76	0
Hexachlorobutadiene	0.554	0.475	-	14.3	20	73	0
1,2,4-Trichlorobenzene	1.012	0.903	-	10.8	20	76	0
Naphthalene	2.453	2.003	-	18.3	20	70	0
1,2,3-Trichlorobenzene	0.973	0.809	-	16.9	20	73	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376243
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA127	Calibration Date	: 01/02/24 09:20
Lab File ID	: V27240102A01	Init. Calib. Date(s)	: 12/14/23 12/15/23
Sample No	: WG1870177-2	Init. Calib. Times	: 20:52 00:19
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.364	0.22	-	39.6*	20	56	0
Chloromethane	0.258	0.345	-	-33.7*	20	116	0
Vinyl chloride	40	38.875	-	2.8	20	88	0
Bromomethane	0.286	0.208	-	27.3*	20	72	0
Chloroethane	40	27.891	-	30.3*	20	68	0
Trichlorofluoromethane	0.511	0.365	-	28.6*	20	62	0
Ethyl ether	0.14	0.128	-	8.6	20	78	0
1,1-Dichloroethene	0.296	0.232	-	21.6*	20	67	0
Carbon disulfide	0.969	0.831	-	14.2	20	74	0
Methylene chloride	0.368	0.286	-	22.3*	20	79	0
Acetone	40	40.845	-	-2.1	20	93	0
trans-1,2-Dichloroethene	0.34	0.27	-	20.6*	20	71	0
Methyl tert-butyl ether	0.838	0.672	-	19.8	20	70	0
Diisopropyl ether	0.867	1.02	-	-17.6	20	107	-.01
1,1-Dichloroethane	0.592	0.531	-	10.3	20	83	0
Ethyl tert-butyl ether	0.759	0.84	-	-10.7	20	90	0
cis-1,2-Dichloroethene	0.352	0.302	-	14.2	20	90	-.01
2,2-Dichloropropane	0.413	0.409	-	1	20	98	0
Bromochloromethane	0.157	0.157	-	0	20	91	-.01
Chloroform	0.509	0.502	-	1.4	20	91	-.01
Carbon tetrachloride	40	36.401	-	9	20	87	0
Tetrahydrofuran	0.054	0.063	-	-16.7	20	112	0
Dibromofluoromethane	0.278	0.249	-	10.4	20	79	0
1,1,1-Trichloroethane	0.414	0.421	-	-1.7	20	86	0
2-Butanone	0.092	0.105	-	-14.1	20	109	-.01
1,1-Dichloropropene	40	39.272	-	1.8	20	86	0
Benzene	0.987	1.046	-	-6	20	91	0
tert-Amyl methyl ether	0.574	0.626	-	-9.1	20	94	0
1,2-Dichloroethane-d4	0.275	0.269	-	2.2	20	86	0
1,2-Dichloroethane	0.333	0.366	-	-9.9	20	97	0
Trichloroethene	0.288	0.289	-	-0.3	20	87	0
Dibromomethane	0.166	0.163	-	1.8	20	88	0
1,2-Dichloropropane	0.239	0.284	-	-18.8	20	104	0
Bromodichloromethane	0.336	0.349	-	-3.9	20	90	0
1,4-Dioxane	0.00268	0.00197*	-	26.5*	20	65	0
cis-1,3-Dichloropropene	0.37	0.381	-	-3	20	89	0
Chlorobenzene-d5	1	1	-	0	20	86	0
Toluene-d8	1.241	1.131	-	8.9	20	76	0
Toluene	0.823	0.801	-	2.7	20	85	0
4-Methyl-2-pentanone	0.089	0.094	-	-5.6	20	93	0
Tetrachloroethene	0.373	0.387	-	-3.8	20	87	0
trans-1,3-Dichloropropene	0.426	0.458	-	-7.5	20	93	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376243
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA127	Calibration Date	: 01/02/24 09:20
Lab File ID	: V27240102A01	Init. Calib. Date(s)	: 12/14/23 12/15/23
Sample No	: WG1870177-2	Init. Calib. Times	: 20:52 00:19
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.24	0.244	-	-1.7	20	88	0
Chlorodibromomethane	0.317	0.337	-	-6.3	20	91	0
1,3-Dichloropropane	0.46	0.477	-	-3.7	20	90	0
1,2-Dibromoethane	0.293	0.283	-	3.4	20	83	0
2-Hexanone	0.155	0.169	-	-9	20	101	0
Chlorobenzene	0.994	0.979	-	1.5	20	86	0
Ethylbenzene	1.503	1.542	-	-2.6	20	85	0
1,1,1,2-Tetrachloroethane	0.352	0.358	-	-1.7	20	89	0
p/m Xylene	0.604	0.628	-	-4	20	84	0
o Xylene	0.589	0.609	-	-3.4	20	84	0
Styrene	80	79.578	-	0.5	20	86	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	85	0
Bromoform	0.394	0.381	-	3.3	20	93	0
Isopropylbenzene	2.794	2.785	-	0.3	20	83	0
4-Bromofluorobenzene	0.735	0.683	-	7.1	20	79	0
Bromobenzene	0.8	0.77	-	3.8	20	87	0
n-Propylbenzene	3.282	3.337	-	-1.7	20	84	0
1,1,2,2-Tetrachloroethane	0.69	0.626	-	9.3	20	81	0
2-Chlorotoluene	1.975	2.348	-	-18.9	20	101	0
1,3,5-Trimethylbenzene	2.452	2.495	-	-1.8	20	86	0
1,2,3-Trichloropropane	0.559	0.514	-	8.1	20	84	0
4-Chlorotoluene	1.961	2.041	-	-4.1	20	88	0
tert-Butylbenzene	2.167	2.117	-	2.3	20	83	0
1,2,4-Trimethylbenzene	2.293	2.411	-	-5.1	20	86	0
sec-Butylbenzene	40	35.499	-	11.3	20	82	0
p-Isopropyltoluene	40	35.475	-	11.3	20	83	0
1,3-Dichlorobenzene	1.574	1.555	-	1.2	20	88	0
1,4-Dichlorobenzene	1.574	1.543	-	2	20	88	0
n-Butylbenzene	40	36.462	-	8.8	20	83	0
1,2-Dichlorobenzene	1.467	1.439	-	1.9	20	89	0
1,2-Dibromo-3-chloropropan	0.108	0.095	-	12	20	78	0
Hexachlorobutadiene	0.457	0.499	-	-9.2	20	95	0
1,2,4-Trichlorobenzene	0.885	0.969	-	-9.5	20	96	0
Naphthalene	2.074	1.937	-	6.6	20	80	0
1,2,3-Trichlorobenzene	0.849	0.895	-	-5.4	20	90	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2376303
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/03/24

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2376303-01	HA24-A4_0-5	SOIL	BOSTON, MA	12/27/23 08:00	12/27/23
L2376303-02	HA24-A4_5-10	SOIL	BOSTON, MA	12/27/23 08:20	12/27/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2376303-01 and -02: Initial calibration utilized a quadratic fit for: 1,1,1,2-tetrachloroethane

In reference to question H:

L2376303-01 and -02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: trichloroethene (0.1904), bromodichloromethane (0.2472), 1,4-dioxane (0.0032), cis-1,3-dichloropropene (0.2490)

Average Response Factor: 1,4-dioxane

Verification: dichlorodifluoromethane (62%)

L2376303-01 and -02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative

Date: 01/03/24

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376303

Report Date: 01/03/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1870137-3	1,2-Dibromo-3-chloropropane	LCS	67	70-130	01-02	potential low bias
8260D	Batch QC	WG1870137-3	Diisopropyl Ether	LCS	139	70-130	01-02	potential high bias
8260D	Batch QC	WG1870137-3	1,4-Dioxane	LCS	64	70-130	01-02	potential low bias
8260D	Batch QC	WG1870137-4	Dichlorodifluoromethane	LCSD	69	70-130	01-02	potential low bias
8260D	Batch QC	WG1870137-4	1,2-Dibromo-3-chloropropane	LCSD	25	20	01-02	non-directional bias

ORGANICS

VOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01
Client ID: HA24-A4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 16:38
Analyst: JIC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.88	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.88	--	1
1,2-Dichloropropane	ND		ug/kg	0.88	--	1
Dibromochloromethane	ND		ug/kg	0.88	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.88	--	1
Tetrachloroethene	ND		ug/kg	0.44	--	1
Chlorobenzene	ND		ug/kg	0.44	--	1
Trichlorofluoromethane	ND		ug/kg	3.5	--	1
1,2-Dichloroethane	ND		ug/kg	0.88	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	--	1
Bromodichloromethane	ND		ug/kg	0.44	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.88	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	--	1
1,1-Dichloropropene	ND		ug/kg	0.44	--	1
Bromoform	ND		ug/kg	3.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Benzene	ND		ug/kg	0.44	--	1
Toluene	ND		ug/kg	0.88	--	1
Ethylbenzene	ND		ug/kg	0.88	--	1
Chloromethane	ND		ug/kg	3.5	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.88	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.88	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01 Date Collected: 12/27/23 08:00

Client ID: HA24-A4_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.44	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.88	--	1
Xylenes, Total	ND		ug/kg	0.88	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.88	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.88	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.88	--	1
Dichlorodifluoromethane	ND		ug/kg	8.8	--	1
Acetone	ND		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.8	--	1
Methyl ethyl ketone	ND		ug/kg	8.8	--	1
Methyl isobutyl ketone	ND		ug/kg	8.8	--	1
2-Hexanone	ND		ug/kg	8.8	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.5	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.88	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.88	--	1
sec-Butylbenzene	ND		ug/kg	0.88	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	--	1
Hexachlorobutadiene	ND		ug/kg	3.5	--	1
Isopropylbenzene	ND		ug/kg	0.88	--	1
p-Isopropyltoluene	ND		ug/kg	0.88	--	1
Naphthalene	ND		ug/kg	3.5	--	1
n-Propylbenzene	ND		ug/kg	0.88	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01 Date Collected: 12/27/23 08:00

Client ID: HA24-A4_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	71	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02
Client ID: HA24-A4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/31/23 16:59
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.82	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.82	--	1
1,2-Dichloropropane	ND		ug/kg	0.82	--	1
Dibromochloromethane	ND		ug/kg	0.82	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.82	--	1
Tetrachloroethene	ND		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.82	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.82	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	ND		ug/kg	0.41	--	1
Toluene	ND		ug/kg	0.82	--	1
Ethylbenzene	ND		ug/kg	0.82	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.82	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.82	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02 Date Collected: 12/27/23 08:20

Client ID: HA24-A4_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.41	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.82	--	1
Xylenes, Total	ND		ug/kg	0.82	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.82	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.82	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.82	--	1
Dichlorodifluoromethane	ND		ug/kg	8.2	--	1
Acetone	ND		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	8.2	--	1
Methyl ethyl ketone	ND		ug/kg	8.2	--	1
Methyl isobutyl ketone	ND		ug/kg	8.2	--	1
2-Hexanone	ND		ug/kg	8.2	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.82	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.82	--	1
sec-Butylbenzene	ND		ug/kg	0.82	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.82	--	1
p-Isopropyltoluene	ND		ug/kg	0.82	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.82	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02 Date Collected: 12/27/23 08:20

Client ID: HA24-A4_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	66	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	99		70-130

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1870137-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1870137-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/31/23 13:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1870137-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1870137-3 WG1870137-4								
Methylene chloride	87		80		70-130	8		20
1,1-Dichloroethane	100		93		70-130	7		20
Chloroform	87		86		70-130	1		20
Carbon tetrachloride	88		87		70-130	1		20
1,2-Dichloropropane	98		100		70-130	2		20
Dibromochloromethane	85		92		70-130	8		20
1,1,2-Trichloroethane	88		95		70-130	8		20
Tetrachloroethene	90		97		70-130	7		20
Chlorobenzene	88		90		70-130	2		20
Trichlorofluoromethane	94		85		70-130	10		20
1,2-Dichloroethane	92		90		70-130	2		20
1,1,1-Trichloroethane	90		86		70-130	5		20
Bromodichloromethane	89		90		70-130	1		20
trans-1,3-Dichloropropene	80		90		70-130	12		20
cis-1,3-Dichloropropene	87		90		70-130	3		20
1,1-Dichloropropene	99		96		70-130	3		20
Bromoform	75		86		70-130	14		20
1,1,2,2-Tetrachloroethane	88		100		70-130	13		20
Benzene	93		92		70-130	1		20
Toluene	89		95		70-130	7		20
Ethylbenzene	91		93		70-130	2		20
Chloromethane	108		97		70-130	11		20
Bromomethane	85		77		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1870137-3 WG1870137-4								
Vinyl chloride	97		87		70-130	11		20
Chloroethane	101		92		70-130	9		20
1,1-Dichloroethene	90		83		70-130	8		20
trans-1,2-Dichloroethene	86		80		70-130	7		20
Trichloroethene	94		94		70-130	0		20
1,2-Dichlorobenzene	85		89		70-130	5		20
1,3-Dichlorobenzene	86		89		70-130	3		20
1,4-Dichlorobenzene	85		88		70-130	3		20
Methyl tert butyl ether	89		85		70-130	5		20
p/m-Xylene	91		92		70-130	1		20
o-Xylene	91		92		70-130	1		20
cis-1,2-Dichloroethene	90		84		70-130	7		20
Dibromomethane	84		86		70-130	2		20
1,2,3-Trichloropropane	86		96		70-130	11		20
Styrene	92		94		70-130	2		20
Dichlorodifluoromethane	76		**69**	Q	70-130	10		20
Acetone	88		95		70-130	8		20
Carbon disulfide	88		83		70-130	6		20
Methyl ethyl ketone	90		104		70-130	14		20
Methyl isobutyl ketone	84		103		70-130	20		20
2-Hexanone	92		109		70-130	17		20
Bromochloromethane	80		83		70-130	4		20
Tetrahydrofuran	88		98		70-130	11		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1870137-3 WG1870137-4								
2,2-Dichloropropane	76		75		70-130	1		20
1,2-Dibromoethane	88		93		70-130	6		20
1,3-Dichloropropane	91		96		70-130	5		20
1,1,1,2-Tetrachloroethane	78		80		70-130	3		20
Bromobenzene	83		88		70-130	6		20
n-Butylbenzene	100		102		70-130	2		20
sec-Butylbenzene	95		98		70-130	3		20
tert-Butylbenzene	91		94		70-130	3		20
o-Chlorotoluene	105		109		70-130	4		20
p-Chlorotoluene	92		95		70-130	3		20
1,2-Dibromo-3-chloropropane	**67**	Q	86		70-130	**25**	Q	20
Hexachlorobutadiene	86		84		70-130	2		20
Isopropylbenzene	93		97		70-130	4		20
p-Isopropyltoluene	93		96		70-130	3		20
Naphthalene	82		89		70-130	8		20
n-Propylbenzene	96		99		70-130	3		20
1,2,3-Trichlorobenzene	83		89		70-130	7		20
1,2,4-Trichlorobenzene	89		92		70-130	3		20
1,3,5-Trimethylbenzene	93		95		70-130	2		20
1,2,4-Trimethylbenzene	92		95		70-130	3		20
Diethyl ether	88		85		70-130	3		20
Diisopropyl Ether	**139**	Q	121		70-130	14		20
Ethyl-Tert-Butyl-Ether	101		96		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1870137-3 WG1870137-4								
Tertiary-Amyl Methyl Ether	79		80		70-130	1		20
1,4-Dioxane	**64**	Q	73		70-130	13		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		98		70-130
Toluene-d8	96		103		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	94		92		70-130

SEMIVOLATILES

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01
Client ID: HA24-A4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/31/23 20:36
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	79	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	79	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	79	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	79	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	1500		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	79	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	79	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	79	--	1
Benzo(a)anthracene	760		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01 Date Collected: 12/27/23 08:00

Client ID: HA24-A4_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1000		ug/kg	150	--	1
Benzo(b)fluoranthene	1500		ug/kg	110	--	1
Benzo(k)fluoranthene	380		ug/kg	110	--	1
Chrysene	900		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	190		ug/kg	110	--	1
Benzo(ghi)perylene	870		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	650		ug/kg	110	--	1
Dibenzo(a,h)anthracene	180		ug/kg	79	--	1
Indeno(1,2,3-cd)pyrene	820		ug/kg	150	--	1
Pyrene	1400		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	79	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	79	--	1
2-Chlorophenol	ND		ug/kg	79	--	1
2,4-Dichlorophenol	ND		ug/kg	79	--	1
2,4-Dimethylphenol	ND		ug/kg	79	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1
Biphenyl	ND		ug/kg	38	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01 Date Collected: 12/27/23 08:00

Client ID: HA24-A4_0-5 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	72		30-130
Phenol-d6	70		30-130
Nitrobenzene-d5	76		30-130
2-Fluorobiphenyl	72		30-130
2,4,6-Tribromophenol	72		30-130
4-Terphenyl-d14	69		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02
Client ID: HA24-A4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8270E
Analytical Date: 12/30/23 02:29
Analyst: EK
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	75	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	75	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	75	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	75	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	2200		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	75	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	75	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	190		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	75	--	1
Benzo(a)anthracene	990		ug/kg	110	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02 Date Collected: 12/27/23 08:20

Client ID: HA24-A4_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	950		ug/kg	140	--	1
Benzo(b)fluoranthene	1100		ug/kg	110	--	1
Benzo(k)fluoranthene	400		ug/kg	110	--	1
Chrysene	910		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	370		ug/kg	110	--	1
Benzo(ghi)perylene	560		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	1400		ug/kg	110	--	1
Dibenzo(a,h)anthracene	120		ug/kg	75	--	1
Indeno(1,2,3-cd)pyrene	500		ug/kg	140	--	1
Pyrene	1900		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	75	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	75	--	1
2-Chlorophenol	ND		ug/kg	75	--	1
2,4-Dichlorophenol	ND		ug/kg	75	--	1
2,4-Dimethylphenol	ND		ug/kg	75	--	1
2-Nitrophenol	ND		ug/kg	390	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	860	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	190	--	1
Biphenyl	ND		ug/kg	36	--	1

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02 Date Collected: 12/27/23 08:20

Client ID: HA24-A4_5-10 Date Received: 12/27/23

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		30-130
Phenol-d6	82		30-130
Nitrobenzene-d5	80		30-130
2-Fluorobiphenyl	78		30-130
2,4,6-Tribromophenol	97		30-130
4-Terphenyl-d14	77		30-130

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:00
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1869297-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:00
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1869297-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 12/29/23 20:00
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/29/23 05:20

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1869297-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		30-130
Phenol-d6	86		30-130
Nitrobenzene-d5	82		30-130
2-Fluorobiphenyl	80		30-130
2,4,6-Tribromophenol	89		30-130
4-Terphenyl-d14	93		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1869297-2 WG1869297-3								
Acenaphthene	59		53		40-140	11		30
1,2,4-Trichlorobenzene	64		57		40-140	12		30
Hexachlorobenzene	68		59		40-140	14		30
Bis(2-chloroethyl)ether	64		56		40-140	13		30
2-Chloronaphthalene	67		61		40-140	9		30
1,2-Dichlorobenzene	60		55		40-140	9		30
1,3-Dichlorobenzene	59		53		40-140	11		30
1,4-Dichlorobenzene	59		54		40-140	9		30
3,3'-Dichlorobenzidine	63		54		40-140	15		30
2,4-Dinitrotoluene	64		57		40-140	12		30
2,6-Dinitrotoluene	80		72		40-140	11		30
Azobenzene	61		54		40-140	12		30
Fluoranthene	67		58		40-140	14		30
4-Bromophenyl phenyl ether	68		59		40-140	14		30
Bis(2-chloroisopropyl)ether	60		54		40-140	11		30
Bis(2-chloroethoxy)methane	65		58		40-140	11		30
Hexachlorobutadiene	65		59		40-140	10		30
Hexachloroethane	58		53		40-140	9		30
Isophorone	65		58		40-140	11		30
Naphthalene	63		57		40-140	10		30
Nitrobenzene	66		60		40-140	10		30
Bis(2-ethylhexyl)phthalate	70		65		40-140	7		30
Butyl benzyl phthalate	76		64		40-140	17		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1869297-2 WG1869297-3								
Di-n-butylphthalate	68		59		40-140	14		30
Di-n-octylphthalate	70		61		40-140	14		30
Diethyl phthalate	66		57		40-140	15		30
Dimethyl phthalate	69		61		40-140	12		30
Benzo(a)anthracene	64		58		40-140	10		30
Benzo(a)pyrene	69		65		40-140	6		30
Benzo(b)fluoranthene	65		57		40-140	13		30
Benzo(k)fluoranthene	58		58		40-140	0		30
Chrysene	62		56		40-140	10		30
Acenaphthylene	67		60		40-140	11		30
Anthracene	66		58		40-140	13		30
Benzo(ghi)perylene	57		53		40-140	7		30
Fluorene	63		55		40-140	14		30
Phenanthrene	62		56		40-140	10		30
Dibenzo(a,h)anthracene	58		54		40-140	7		30
Indeno(1,2,3-cd)pyrene	58		54		40-140	7		30
Pyrene	67		58		40-140	14		30
Aniline	62		56		40-140	10		30
4-Chloroaniline	52		41		40-140	24		30
Dibenzofuran	62		56		40-140	10		30
2-Methylnaphthalene	66		59		40-140	11		30
Acetophenone	72		66		40-140	9		30
2,4,6-Trichlorophenol	78		70		30-130	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012
Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1869297-2 WG1869297-3								
2-Chlorophenol	66		60		30-130	10		30
2,4-Dichlorophenol	72		65		30-130	10		30
2,4-Dimethylphenol	68		61		30-130	11		30
2-Nitrophenol	83		75		30-130	10		30
4-Nitrophenol	62		55		30-130	12		30
2,4-Dinitrophenol	38		38		30-130	0		30
Pentachlorophenol	68		58		30-130	16		30
Phenol	74		67		30-130	10		30
2-Methylphenol	65		60		30-130	8		30
3-Methylphenol/4-Methylphenol	67		60		30-130	11		30
2,4,5-Trichlorophenol	76		68		30-130	11		30
Pyridine	42		37		30-130	13		30
Biphenyl	70		63		40-140	11		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	69		68		30-130
Phenol-d6	72		70		30-130
Nitrobenzene-d5	70		67		30-130
2-Fluorobiphenyl	67		64		30-130
2,4,6-Tribromophenol	84		79		30-130
4-Terphenyl-d14	69		64		30-130

PETROLEUM HYDROCARBONS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376303
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01
Client ID: HA24-A4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 17:45
Analyst: ALL
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 00:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	386000		ug/kg	37400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376303
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02
Client ID: HA24-A4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 19:30
Analyst: ALL
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/29/23 00:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	157000		ug/kg	35000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	80		40-140

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 12/29/23 15:26
Analyst: ALL

Extraction Method: EPA 3546
Extraction Date: 12/29/23 10:03

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-02 Batch: WG1869256-1					
TPH (C10-C36)	ND		ug/kg	32100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	71		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376303

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-02 Batch: WG1869256-2								
TPH (C10-C36)	80		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	62				40-140

PCBS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01
Client ID: HA24-A4_0-5
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/31/23 13:39
Analyst: EMR
Percent Solids: 88%

Date Collected: 12/27/23 08:00
Date Received: 12/27/23
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 12/30/23 01:54
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	56.0	--	1	A
Aroclor 1221	ND		ug/kg	56.0	--	1	A
Aroclor 1232	ND		ug/kg	56.0	--	1	A
Aroclor 1242	ND		ug/kg	56.0	--	1	A
Aroclor 1248	ND		ug/kg	56.0	--	1	A
Aroclor 1254	ND		ug/kg	56.0	--	1	A
Aroclor 1260	ND		ug/kg	56.0	--	1	A
Aroclor 1262	ND		ug/kg	56.0	--	1	A
Aroclor 1268	ND		ug/kg	56.0	--	1	A
PCBs, Total	ND		ug/kg	56.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	39		30-150	A
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	49		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02
Client ID: HA24-A4_5-10
Sample Location: BOSTON, MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/30/23 16:18
Analyst: EMR
Percent Solids: 91%

Date Collected: 12/27/23 08:20
Date Received: 12/27/23
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 12/29/23 17:47
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	54.5	--	1	A
Aroclor 1221	ND		ug/kg	54.5	--	1	A
Aroclor 1232	ND		ug/kg	54.5	--	1	A
Aroclor 1242	ND		ug/kg	54.5	--	1	A
Aroclor 1248	ND		ug/kg	54.5	--	1	A
Aroclor 1254	ND		ug/kg	54.5	--	1	A
Aroclor 1260	ND		ug/kg	54.5	--	1	A
Aroclor 1262	ND		ug/kg	54.5	--	1	A
Aroclor 1268	ND		ug/kg	54.5	--	1	A
PCBs, Total	ND		ug/kg	54.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/30/23 14:11
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 12/29/23 12:27
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02 Batch: WG1869480-1						
Aroclor 1016	ND		ug/kg	48.0	--	A
Aroclor 1221	ND		ug/kg	48.0	--	A
Aroclor 1232	ND		ug/kg	48.0	--	A
Aroclor 1242	ND		ug/kg	48.0	--	A
Aroclor 1248	ND		ug/kg	48.0	--	A
Aroclor 1254	ND		ug/kg	48.0	--	A
Aroclor 1260	ND		ug/kg	48.0	--	A
Aroclor 1262	ND		ug/kg	48.0	--	A
Aroclor 1268	ND		ug/kg	48.0	--	A
PCBs, Total	ND		ug/kg	48.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	56		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/31/23 12:39
Analyst: EMR

Extraction Method: EPA 3546
Extraction Date: 12/30/23 01:54
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/23
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1869637-1						
Aroclor 1016	ND		ug/kg	47.4	--	A
Aroclor 1221	ND		ug/kg	47.4	--	A
Aroclor 1232	ND		ug/kg	47.4	--	A
Aroclor 1242	ND		ug/kg	47.4	--	A
Aroclor 1248	ND		ug/kg	47.4	--	A
Aroclor 1254	ND		ug/kg	47.4	--	A
Aroclor 1260	ND		ug/kg	47.4	--	A
Aroclor 1262	ND		ug/kg	47.4	--	A
Aroclor 1268	ND		ug/kg	47.4	--	A
PCBs, Total	ND		ug/kg	47.4	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	74		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376303

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02 Batch: WG1869480-2 WG1869480-3									
Aroclor 1016	71		84		40-140	17		30	A
Aroclor 1260	61		70		40-140	14		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		77		30-150	A
Decachlorobiphenyl	53		60		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		75		30-150	B
Decachlorobiphenyl	61		66		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376303

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1869637-2 WG1869637-3									
Aroclor 1016	74		78		40-140	5		30	A
Aroclor 1260	65		70		40-140	7		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		72		30-150	A
Decachlorobiphenyl	58		61		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		76		30-150	B
Decachlorobiphenyl	67		71		30-150	B

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376303
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01
Client ID: HA24-A4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.27	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Arsenic, Total	5.26		mg/kg	0.453	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Barium, Total	36.9		mg/kg	0.453	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Beryllium, Total	0.511		mg/kg	0.227	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Cadmium, Total	ND		mg/kg	0.453	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Chromium, Total	11.9		mg/kg	0.453	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Lead, Total	40.2		mg/kg	2.27	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Mercury, Total	ND		mg/kg	0.083	--	1	12/29/23 02:50	12/29/23 21:23	EPA 7471B	97,7471B	GMG
Nickel, Total	9.23		mg/kg	1.13	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.27	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.453	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.27	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Vanadium, Total	20.3		mg/kg	0.453	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA
Zinc, Total	42.8		mg/kg	2.27	--	1	12/29/23 02:20	12/31/23 17:48	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376303
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02
Client ID: HA24-A4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Arsenic, Total	8.44		mg/kg	0.434	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Barium, Total	84.4		mg/kg	0.434	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Beryllium, Total	0.360		mg/kg	0.217	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Cadmium, Total	0.517		mg/kg	0.434	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Chromium, Total	9.63		mg/kg	0.434	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Lead, Total	213		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Mercury, Total	ND		mg/kg	0.085	--	1	12/29/23 02:50	12/29/23 21:27	EPA 7471B	97,7471B	GMG
Nickel, Total	9.00		mg/kg	1.08	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Silver, Total	ND		mg/kg	0.434	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Vanadium, Total	15.5		mg/kg	0.434	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA
Zinc, Total	315		mg/kg	2.17	--	1	12/29/23 02:20	12/31/23 17:53	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1869072-1										
Antimony, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Arsenic, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Barium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Beryllium, Total	ND		mg/kg	0.200	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Cadmium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Chromium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Lead, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Nickel, Total	ND		mg/kg	1.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Selenium, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Silver, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Thallium, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Vanadium, Total	ND		mg/kg	0.400	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA
Zinc, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1869074-1										
Mercury, Total	ND		mg/kg	0.083	--	1	12/29/23 02:50	12/29/23 20:37	97,7471B	GMG

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1869072-2 WG1869072-3 SRM Lot Number: D122-540								
Antimony, Total	170		185		6-194	8		30
Arsenic, Total	106		106		81-119	0		30
Barium, Total	101		96		83-117	5		30
Beryllium, Total	106		103		83-117	3		30
Cadmium, Total	100		101		83-117	1		30
Chromium, Total	103		104		82-118	1		30
Lead, Total	103		102		83-117	1		30
Nickel, Total	104		105		83-117	1		30
Selenium, Total	107		108		81-119	1		30
Silver, Total	105		106		80-120	1		30
Thallium, Total	101		103		81-119	2		30
Vanadium, Total	98		98		80-120	0		30
Zinc, Total	102		103		82-119	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1869074-2 WG1869074-3 SRM Lot Number: D122-540								
Mercury, Total	92		91		73-127	1		30

INORGANICS
&
MISCELLANEOUS

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376303-01	Date Collected:	12/27/23 08:00
Client ID:	HA24-A4_0-5	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:29	1,1030	GEF

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

SAMPLE RESULTS

Lab ID:	L2376303-02	Date Collected:	12/27/23 08:20
Client ID:	HA24-A4_5-10	Date Received:	12/27/23
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Wet Sand
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/02/24 15:29	1,1030	GEF

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-01
Client ID: HA24-A4_0-5
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	280		umhos/cm	10	--	1	-	01/02/24 21:38	1,9050A	AAS
Solids, Total	87.8		%	0.100	NA	1	-	12/27/23 23:29	121,2540G	WJM
pH (H)	9.27		SU	-	NA	1	-	01/02/24 20:04	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/30/23 10:30	12/30/23 13:44	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/30/23 10:30	12/30/23 14:04	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376303-02
Client ID: HA24-A4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	270		umhos/cm	10	--	1	-	01/02/24 21:38	1,9050A	AAS
Solids, Total	90.6		%	0.100	NA	1	-	12/27/23 23:29	121,2540G	WJM
pH (H)	8.67		SU	-	NA	1	-	01/02/24 20:04	1,9045D	AAS
Cyanide, Reactive	ND		mg/kg	130	--	1	12/30/23 10:30	12/30/23 13:45	125,7.3	JLB
Sulfide, Reactive	ND		mg/kg	250	--	1	12/30/23 10:30	12/30/23 14:04	125,7.3	JLB

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376303

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1869728-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	12/30/23 10:30	12/30/23 13:42	125,7.3	JLB
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1869730-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	12/30/23 10:30	12/30/23 13:57	125,7.3	JLB

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376303

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1869728-2								
Cyanide, Reactive	85		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1869730-2								
Sulfide, Reactive	69		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1870293-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1870295-1								
Specific Conductance	99		-		99-101	-		

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376303-01A	Vial MeOH preserved	A	NA		5.9	Y	Absent		MCP-8260HLW-21(14)
L2376303-01B	Vial water preserved	A	NA		5.9	Y	Absent	27-DEC-23 19:20	MCP-8260HLW-21(14)
L2376303-01C	Vial water preserved	A	NA		5.9	Y	Absent	27-DEC-23 19:20	MCP-8260HLW-21(14)
L2376303-01D	Plastic 2oz unpreserved for TS	A	NA		5.9	Y	Absent		TS(7)
L2376303-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.9	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2376303-01F	Vial Large Septa unpreserved (4oz)	A	NA		5.9	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376303-01G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		5.9	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376303-01H	Glass 250ml/8oz unpreserved	A	NA		5.9	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376303-01I	Glass 500ml/16oz unpreserved	A	NA		5.9	Y	Absent		REACTS(14),MCP-8082-10(365),IGNIT-1030(14),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2376303-02A	1 Vial MeOH/2 Vial Water	A	NA		5.9	Y	Absent		MCP-8260HLW-21(14)
L2376303-02B	1 Vial MeOH/2 Vial Water	A	NA		5.9	Y	Absent		MCP-8260HLW-21(14)
L2376303-02C	1 Vial MeOH/2 Vial Water	A	NA		5.9	Y	Absent		MCP-8260HLW-21(14)
L2376303-02D	Plastic 2oz unpreserved for TS	A	NA		5.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376303
Report Date: 01/03/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376303-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.9	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2376303-02F	1 Vial MeOH/2 Vial Water	A	NA		5.9	Y	Absent		MCP-8260HLW-21(14),HOLD-WETCHEM()
L2376303-02G	Glass 120ml/4oz unpreserved/No Headspace	A	NA		5.9	Y	Absent		HEXCR-RELOG(),HOLD-WETCHEM()
L2376303-02H	Glass 250ml/8oz unpreserved	A	NA		5.9	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2376303-02I	Glass 250ml/8oz unpreserved	A	NA		5.9	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376303
Project Number:	134206-012	**Report Date:**	01/03/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA

CHAIN OF CUSTODY

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 12/27/23

ALPHA Job # L2376303

Westborough, MA 01581, 8 Walkup Dr., TEL: 508-898-9220, FAX: 508-898-9193
Mansfield, MA 02048, 320 Forbes Blvd, TEL: 508-822-9300, FAX: 508-822-3288

Project Information

Project Name:	Northeastern University - New Arena
Project Location:	Boston, MA
Project #	134206-012
(Use Project name as Project #)	
Project Manager:	K. Tripp
ALPHAQuote #:	25256

Deliverables

- [x] Email
- [ ] Fax
- [ ] EQuIS (1 File)
- [x] EQuIS (4 File)
- [ ] Other:

Billing Information

- [ ] Same as Client Info

PO #

H&A Information

H&A Client:	Northeastern University
H&A Address:	465 Medford Street, Suite 2200
	Boston, MA 02129
H&A Phone:	617-886-7400
H&A Fax:	JBitney@haleyaldrich.com
H&A Email:	CWorthy@haleyaldrich.com

Turn-Around Time

- [x] Standard Due Date:
- [ ] Rush (only if pre approved) # of Days: 5

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: [ ] NJ [ ] NY [ ] Other:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

Sample Filtration

- [ ] Done
- [ ] Lab to do

Preservation

- [ ] Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	VOCs	SVOCs	MCP 14 Metals	PCBs	TPH	Waste Characteristics (1)	Herbicides / Pesticides		Sample Specific Comments	Total Bottles
76303-01	HA24-A4_0-5	12/27/23	0800	SO	CFT	5	X	X	X	X	X	X				
02	HA24-A4_5-10	12/27	0820		CFT	10	X	X	X	X	X	X				
Container Type							A	A	A	A	A	A	A			
Preservative							F	A	A	A	A	A	A			

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, K/E = Zn Ac/NaOH, O = Other

Container Code: P = Plastic, A = Amber Glass, V = Vial, G = Glass, B = Bacteria Cup, C = Cube, O = Other, E = Encore, D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
C.F. Tierney CFT HA	12/27/23	[signature] AAL	12-27-23 1630
[signature] AAL	12-27-23 1750	[signature]	12/27 1750

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2376303
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Lab Sample ID	: WG1870137-5	**Lab File ID**	: V29231231A05
Instrument ID	: VOA129		
Matrix	: SOIL	**Analysis Date**	: 12/31/23 13:31

Client Sample No.	Lab Sample ID	Analysis Date
WG1870137-3LCS	WG1870137-3	12/31/23 12:07
WG1870137-4LCSD	WG1870137-4	12/31/23 12:28
HA24-A4_0-5	L2376303-01	12/31/23 16:38
HA24-A4_5-10	L2376303-02	12/31/23 16:59

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376303
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	93	0
Dichlorodifluoromethane	0.332	0.251	-	24.4*	20	66	0
Chloromethane	0.42	0.454	-	-8.1	20	95	0
Vinyl chloride	0.377	0.365	-	3.2	20	85	0
Bromomethane	0.185	0.157	-	15.1	20	83	0
Chloroethane	0.206	0.208	-	-1	20	88	0
Trichlorofluoromethane	0.367	0.346	-	5.7	20	82	0
Ethyl ether	0.13	0.115	-	11.5	20	80	0
1,1-Dichloroethene	0.225	0.201	-	10.7	20	79	0
Carbon disulfide	0.786	0.689	-	12.3	20	76	0
Freon-113	0.237	0.231	-	2.5	20	82	0
Acrolein	40	36.269	-	9.3	20	86	0
Methylene chloride	40	34.727	-	13.2	20	77	0
Acetone	40	35.277	-	11.8	20	85	-.01
trans-1,2-Dichloroethene	0.255	0.219	-	14.1	20	76	0
Methyl acetate	0.254	0.227	-	10.6	20	89	0
Methyl tert-butyl ether	0.671	0.595	-	11.3	20	76	-.01
tert-Butyl alcohol	0.045	0.03	-	33.3*	20	66	-.02
Diisopropyl ether	1.023	1.424	-	-39.2*	20	118	-.01
1,1-Dichloroethane	0.563	0.563	-	0	20	89	0
Halothane	0.193	0.18	-	6.7	20	82	0
Acrylonitrile	0.108	0.113	-	-4.6	20	100	0
Ethyl tert-butyl ether	0.907	0.917	-	-1.1	20	85	-.01
Vinyl acetate	0.658	0.703	-	-6.8	20	93	0
cis-1,2-Dichloroethene	0.289	0.261	-	9.7	20	79	0
2,2-Dichloropropane	0.35	0.267	-	23.7*	20	68	-.01
Bromochloromethane	0.134	0.107	-	20.1*	20	72	0
Cyclohexane	0.555	0.636	-	-14.6	20	95	0
Chloroform	0.485	0.423	-	12.8	20	76	-.01
Ethyl acetate	0.302	0.283	-	6.3	20	83	0
Carbon tetrachloride	0.313	0.275	-	12.1	20	75	0
Tetrahydrofuran	0.112	0.099	-	11.6	20	84	0
Dibromofluoromethane	0.252	0.237	-	6	20	88	0
1,1,1-Trichloroethane	0.381	0.343	-	10	20	74	0
2-Butanone	0.151	0.136	-	9.9	20	85	0
1,1-Dichloropropene	0.343	0.339	-	1.2	20	81	0
Benzene	0.99	0.921	-	7	20	78	0
tert-Amyl methyl ether	0.633	0.499	-	21.2*	20	67	0
1,2-Dichloroethane-d4	0.321	0.328	-	-2.2	20	97	0
1,2-Dichloroethane	0.417	0.385	-	7.7	20	81	0
Methyl cyclohexane	0.428	0.421	-	1.6	20	81	0
Trichloroethene	0.26	0.245	-	5.8	20	77	0
Dibromomethane	0.162	0.136	-	16	20	75	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	Lab Number	: L2376303
Project Name	: NORTHEASTERN UNI. - NEW ARENA	Project Number	: 134206-012
Instrument ID	: VOA129	Calibration Date	: 12/31/23 12:07
Lab File ID	: V29231231A01	Init. Calib. Date(s)	: 12/19/23 12/20/23
Sample No	: WG1870137-2	Init. Calib. Times	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.306	0.301	-	1.6	20	84	0
2-Chloroethyl vinyl ether	0.184	0.137	-	25.5*	20	64	-.03
Bromodichloromethane	0.336	0.3*	-	10.7	20	75	0
1,4-Dioxane	0.00323	0.00207*	-	35.9*	20	59	0
cis-1,3-Dichloropropene	0.366	0.319	-	12.8	20	70	0
Chlorobenzene-d5	1	1	-	0	20	92	0
Toluene-d8	1.302	1.256	-	3.5	20	89	0
Toluene	0.875	0.78	-	10.9	20	77	0
4-Methyl-2-pentanone	0.155	0.13	-	16.1	20	71	0
Tetrachloroethene	0.338	0.305	-	9.8	20	74	0
trans-1,3-Dichloropropene	0.445	0.358	-	19.6	20	68	0
Ethyl methacrylate	0.351	0.299	-	14.8	20	72	0
1,1,2-Trichloroethane	0.248	0.219	-	11.7	20	76	0
Chlorodibromomethane	0.307	0.26	-	15.3	20	70	0
1,3-Dichloropropane	0.508	0.463	-	8.9	20	77	0
1,2-Dibromoethane	0.274	0.242	-	11.7	20	73	0
2-Hexanone	0.275	0.254	-	7.6	20	80	0
Chlorobenzene	0.945	0.831	-	12.1	20	75	0
Ethylbenzene	1.663	1.52	-	8.6	20	78	0
1,1,1,2-Tetrachloroethane	40	31.042	-	22.4*	20	71	0
p/m Xylene	0.625	0.567	-	9.3	20	77	0
o Xylene	0.606	0.55	-	9.2	20	77	0
Styrene	0.997	0.916	-	8.1	20	75	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	93	0
Bromoform	0.388	0.292	-	24.7*	20	64	0
Isopropylbenzene	3.156	2.927	-	7.3	20	77	0
4-Bromofluorobenzene	0.963	0.935	-	2.9	20	89	0
Bromobenzene	0.786	0.652	-	17	20	71	0
n-Propylbenzene	3.818	3.675	-	3.7	20	81	0
1,4-Dichlorobutane	1.245	1.244	-	0.1	20	86	0
1,1,2,2-Tetrachloroethane	0.713	0.63	-	11.6	20	73	0
4-Ethyltoluene	3.149	2.973	-	5.6	20	78	0
2-Chlorotoluene	2.37	2.494	-	-5.2	20	90	0
1,3,5-Trimethylbenzene	2.79	2.59	-	7.2	20	77	0
1,2,3-Trichloropropane	0.642	0.549	-	14.5	20	74	0
trans-1,4-Dichloro-2-buten	0.263	0.24	-	8.7	20	82	0
4-Chlorotoluene	2.434	2.242	-	7.9	20	78	0
tert-Butylbenzene	2.31	2.102	-	9	20	77	0
1,2,4-Trimethylbenzene	2.69	2.487	-	7.5	20	77	0
sec-Butylbenzene	3.438	3.274	-	4.8	20	79	0
p-Isopropyltoluene	2.933	2.741	-	6.5	20	78	0
1,3-Dichlorobenzene	1.526	1.305	-	14.5	20	73	0
1,4-Dichlorobenzene	1.552	1.318	-	15.1	20	74	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2376303
Project Name	: NORTHEASTERN UNI. - NEW ARENA	**Project Number**	: 134206-012
Instrument ID	: VOA129	**Calibration Date**	: 12/31/23 12:07
Lab File ID	: V29231231A01	**Init. Calib. Date(s)**	: 12/19/23 12/20/23
Sample No	: WG1870137-2	**Init. Calib. Times**	: 21:48 01:16
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.805	1.673	-	7.3	20	77	0
n-Butylbenzene	2.679	2.679	-	0	20	82	0
1,2-Dichlorobenzene	1.438	1.22	-	15.2	20	73	0
1,2,4,5-Tetramethylbenzene	2.739	2.53	-	7.6	20	76	0
1,2-Dibromo-3-chloropropan	0.115	0.077	-	33*	20	60	0
1,3,5-Trichlorobenzene	1.142	0.994	-	13	20	76	0
Hexachlorobutadiene	0.554	0.475	-	14.3	20	73	0
1,2,4-Trichlorobenzene	1.012	0.903	-	10.8	20	76	0
Naphthalene	2.453	2.003	-	18.3	20	70	0
1,2,3-Trichlorobenzene	0.973	0.809	-	16.9	20	73	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2376304
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/03/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2376304-01	A4-TCLP-W1	SOIL	BOSTON, MA	12/27/23 08:50	12/27/23
L2376304-02	A4-TCLP-S1	SOIL	BOSTON, MA	12/27/23 09:00	12/27/23
L2376304-03	A4-TCLP-E1	SOIL	BOSTON, MA	12/27/23 09:20	12/27/23
L2376304-04	A4-TCLP-E2	SOIL	BOSTON, MA	12/27/23 09:30	12/27/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376304
Project Number:	134206-012	**Report Date:**	01/03/24

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376304
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376304
Project Number:	134206-012	**Report Date:**	01/03/24

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Total Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 01/03/24

QC OUTLIER SUMMARY REPORT

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376304

Report Date: 01/03/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-01
Client ID: A4-TCLP-W1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:50
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

TCLP/SPLP Ext. Date: 12/29/23 05:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/02/24 21:52	01/03/24 09:53	EPA 3015	1,6010D	DMC

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-01
Client ID: A4-TCLP-W1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:50
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	90.2		mg/kg	2.22	--	1	12/29/23 02:20	12/31/23 17:57	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-02
Client ID: A4-TCLP-S1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

TCLP/SPLP Ext. Date: 12/29/23 05:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/03/24 02:20	01/03/24 10:27	EPA 3015	1,6010D	DMC

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-02
Client ID: A4-TCLP-S1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	12.9		mg/kg	2.32	--	1	12/29/23 02:20	12/31/23 18:02	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-03
Client ID: A4-TCLP-E1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

TCLP/SPLP Ext. Date: 12/29/23 05:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/03/24 02:20	01/03/24 10:31	EPA 3015	1,6010D	DMC

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-03
Client ID: A4-TCLP-E1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	37.2		mg/kg	2.10	--	1	12/29/23 02:20	12/31/23 18:06	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-04
Client ID: A4-TCLP-E2
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

TCLP/SPLP Ext. Date: 12/29/23 05:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/03/24 02:20	01/03/24 10:36	EPA 3015	1,6010D	DMC

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2376304
Project Number: 134206-012
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-04
Client ID: A4-TCLP-E2
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	29.9		mg/kg	2.06	--	1	12/29/23 02:20	12/31/23 18:11	EPA 3050B	97,6010D	TAA

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2376304

Project Number: 134206-012 **Report Date:** 01/03/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-04 Batch: WG1869072-1										
Lead, Total	ND		mg/kg	2.00	--	1	12/29/23 02:20	12/31/23 15:58	97,6010D	TAA

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 02-04 Batch: WG1870074-1										
Lead, TCLP	ND		mg/l	0.500	--	1	01/03/24 02:20	01/03/24 08:17	1,6010D	DMC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 12/28/23 05:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1870148-1										
Lead, TCLP	ND		mg/l	0.500	--	1	01/02/24 21:52	01/03/24 09:44	1,6010D	DMC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 12/29/23 05:38

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376304

Report Date: 01/03/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1869072-2 WG1869072-3 SRM Lot Number: D122-540								
Lead, Total	103		102		83-117	1		30
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02-04 Batch: WG1870074-2								
Lead, TCLP	91		-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1870148-2								
Lead, TCLP	101		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1870148-3 QC Sample: L2376304-01 Client ID: A4-TCLP-W1												
Lead, TCLP	ND	5.3	5.95	112		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2376304

Report Date: 01/03/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1870148-4 QC Sample: L2376304-01 Client ID: A4-TCLP-W1						
Lead, TCLP	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-01
Client ID: A4-TCLP-W1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:50
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	12/27/23 23:29	121,2540G	WJM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-02
Client ID: A4-TCLP-S1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.6		%	0.100	NA	1	-	12/27/23 23:29	121,2540G	WJM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-03
Client ID: A4-TCLP-E1
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	12/27/23 23:29	121,2540G	WJM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

SAMPLE RESULTS

Lab ID: L2376304-04
Client ID: A4-TCLP-E2
Sample Location: BOSTON, MA

Date Collected: 12/27/23 09:30
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.2		%	0.100	NA	1	-	12/27/23 23:29	121,2540G	WJM

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2376304-01A	Plastic 2oz unpreserved for TS	A	NA		5.9	Y	Absent		TS(7)
L2376304-01B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.9	Y	Absent		MCP-PB-6010T-10(180)
L2376304-01C	Glass 250ml/8oz unpreserved	A	NA		5.9	Y	Absent		-
L2376304-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		5.9	Y	Absent		PB-CI(180)
L2376304-01X9	Tumble Vessel	A	NA		5.9	Y	Absent		-
L2376304-02A	Plastic 2oz unpreserved for TS	A	NA		5.9	Y	Absent		TS(7)
L2376304-02B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.9	Y	Absent		MCP-PB-6010T-10(180)
L2376304-02C	Glass 250ml/8oz unpreserved	A	NA		5.9	Y	Absent		-
L2376304-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		5.9	Y	Absent		PB-CI(180)
L2376304-02X9	Tumble Vessel	A	NA		5.9	Y	Absent		-
L2376304-03A	Plastic 2oz unpreserved for TS	A	NA		5.9	Y	Absent		TS(7)
L2376304-03B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.9	Y	Absent		MCP-PB-6010T-10(180)
L2376304-03C	Glass 250ml/8oz unpreserved	A	NA		5.9	Y	Absent		-
L2376304-03X	Plastic 120ml HNO3 preserved Extracts	A	NA		5.9	Y	Absent		PB-CI(180)
L2376304-03X9	Tumble Vessel	A	NA		5.9	Y	Absent		-
L2376304-04A	Plastic 2oz unpreserved for TS	A	NA		5.9	Y	Absent		TS(7)
L2376304-04B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.9	Y	Absent		MCP-PB-6010T-10(180)
L2376304-04C	Glass 250ml/8oz unpreserved	A	NA		5.9	Y	Absent		-
L2376304-04X	Plastic 120ml HNO3 preserved Extracts	A	NA		5.9	Y	Absent		PB-CI(180)
L2376304-04X9	Tumble Vessel	A	NA		5.9	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2376304
Report Date: 01/03/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376304
Project Number:	134206-012	**Report Date:**	01/03/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376304
Project Number:	134206-012	**Report Date:**	01/03/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376304
Project Number:	134206-012	**Report Date:**	01/03/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2376304
Project Number:	134206-012	**Report Date:**	01/03/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 12/27/23

ALPHA Job #: L2376304

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project #: 134206-012
(Use Project name as Project #) ☐
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre-approved) # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do

Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	Total Lead	TCLP Lead							Sample Specific Comments	Total Bottles
76304-01	A4-TCLP-W1	12/27/23	0850	SO	CFT	5	X	X								3
02	A4-TCLP-S1	↓	0900	↓	↓	↓	X	X								3
03	A4-TCLP-E1	↓	0920	↓	↓	↓	X	X								3
04	A4-TCLP-E2	↓	0930	↓	↓	↓	X	X								
Container Type							A	A								
Preservative							A	A								

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
C.F. Torney CFT	12/27/23	DAC	12-27-23 1630
[illegible]	12-27-23 1750	[illegible]	12/27 1750

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

ANALYTICAL REPORT

Lab Number:	L2400001
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/09/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400001
Report Date: 01/09/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2400001-01	HA24-B3_5-10	SOIL	BOSTON, MA	12/27/23 12:00	12/27/23
L2400001-02	HA24-A1_5-10	SOIL	BOSTON, MA	12/27/23 12:40	12/27/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400001
Project Number:	134206-012	**Report Date:**	01/09/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 01/09/24

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2400001
Project Number: 134206-012
Report Date: 01/09/24

SAMPLE RESULTS

Lab ID: L2400001-01
Client ID: HA24-B3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:00
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 21:32	EPA 3015	1,6010D	CEY

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2400001
Project Number: 134206-012
Report Date: 01/09/24

SAMPLE RESULTS

Lab ID: L2400001-02
Client ID: HA24-A1_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 12:40
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	1.05		mg/l	0.500	--	1	01/08/24 15:24	01/08/24 18:41	EPA 3015	1,6010D	AMW

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2400001

Project Number: 134206-012 **Report Date:** 01/09/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1871983-1										
Lead, TCLP	ND		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 21:25	1,6010D	CEY

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 02 Batch: WG1871997-1										
Lead, TCLP	ND		mg/l	0.500	--	1	01/08/24 15:24	01/08/24 18:27	1,6010D	AMW

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 01/04/24 23:21

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2400001

Report Date: 01/09/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1871983-2								
Lead, TCLP	97		-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02 Batch: WG1871997-2								
Lead, TCLP	100		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400001
Report Date: 01/09/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1871983-3 QC Sample: L2400726-01 Client ID: MS Sample												
Lead, TCLP	ND	5.3	5.04	95		-	-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02 QC Batch ID: WG1871997-3 QC Sample: L2400001-02 Client ID: HA24-A1_5-10												
Lead, TCLP	1.05	5.3	6.16	96		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2400001

Report Date: 01/09/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1871983-4 QC Sample: L2400726-01 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02 QC Batch ID: WG1871997-4 QC Sample: L2400001-02 Client ID: HA24-A1_5-10						
Lead, TCLP	1.05	1.05	mg/l	0		20

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400001
Report Date: 01/09/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2400001-01I	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		-
L2400001-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.8	Y	Absent		PB-CI(180)
L2400001-01X9	Tumble Vessel	A	NA		3.8	Y	Absent		-
L2400001-02I	Glass 500ml/16oz unpreserved	A	NA		3.8	Y	Absent		-
L2400001-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.8	Y	Absent		PB-CI(180)
L2400001-02X9	Tumble Vessel	A	NA		3.8	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400001
Project Number:	134206-012	**Report Date:**	01/09/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400001
Project Number:	134206-012	**Report Date:**	01/09/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400001
Project Number:	134206-012	**Report Date:**	01/09/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400001
Project Number:	134206-012	**Report Date:**	01/09/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

1/4/24 L2400001

CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 12/27/23

ALPHA Job # ~~L2376243~~ GNG

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project # 134206-012
(Use Project name as Project #)
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard Due Date:
Rush (only if pre-approved) # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	~~VOCs~~	~~SVOCs~~	~~MCP 14 Metals~~	~~PCBs~~	~~TPH~~	~~Waste Characteristics (1)~~	~~Herbicides / Pesticides~~	TCLP-LEAD	Sample Specific Comments	Total Bottles
~~76243~~ - 01	HA24-B3_0-5	12/27/23		SO	CFT	5	X	X	X	X	X	X				
0001-01 02	HA24-B3_5-10	↓		↓	↓	10	X	X	X	X	X	X		X		
03	HA24-B3_10-15	↓		↓	↓	15	X	X	X	X	X	X				
04	HA24-A1_0-5	↓		↓	↓	5	X	X	X	X	X	X				
-02 05	HA24-A1_5-10	↓		↓	↓	10	X	X	X	X	X	X		X		

Preservative Code:
= None
= HCl
= HNO_3
= H_2SO_4
= NaOH
= MeOH
= $NaHSO_4$
= $Na_2S_2O_3$
E = Zn Ac/NaOH
= Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
C.F. Tierney CFT [signature]	12/27/23 14:00	[signature]	14:00 12/27/23
[signature]	12/27/23 1444	[signature] AAL	12-27-23 1445
[signature] AAL	12-27-23 1750	[signature]	12/27 1750

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22 Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

ANALYTICAL REPORT

Lab Number:	L2400002
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/09/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400002
Report Date: 01/09/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2400002-01	HA24-A4_5-10	SOIL	BOSTON, MA	12/27/23 08:20	12/27/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400002
Project Number:	134206-012	**Report Date:**	01/09/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 01/09/24

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2400002
Project Number: 134206-012
Report Date: 01/09/24

SAMPLE RESULTS

Lab ID: L2400002-01
Client ID: HA24-A4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/27/23 08:20
Date Received: 12/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	2.71		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 21:36	EPA 3015	1,6010D	CEY

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2400002

Project Number: 134206-012 **Report Date:** 01/09/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1871983-1										
Lead, TCLP	ND		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 21:25	1,6010D	CEY

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 01/04/24 23:21

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2400002

Report Date: 01/09/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1871983-2								
Lead, TCLP	97		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400002
Report Date: 01/09/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1871983-3 QC Sample: L2400726-01 Client ID: MS Sample												
Lead, TCLP	ND	5.3	5.04	95		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2400002

Report Date: 01/09/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1871983-4 QC Sample: L2400726-01 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400002
Report Date: 01/09/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2400002-01I	Glass 500ml/16oz unpreserved	A	NA		5.9	Y	Absent		-
L2400002-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		5.9	Y	Absent		PB-CI(180)
L2400002-01X9	Tumble Vessel	A	NA		5.9	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400002
Project Number:	134206-012	**Report Date:**	01/09/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400002
Project Number:	134206-012	**Report Date:**	01/09/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400002
Project Number:	134206-012	**Report Date:**	01/09/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400002
Project Number:	134206-012	**Report Date:**	01/09/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

1/4/24 L2400002

ALPHA CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab 12/27/23

ALPHA Job # ~~L2376303~~ GAG

Project Information

Project Name: Northeastern University - New Arena
Project Location: Boston, MA
Project #: 134206-012
(Use Project name as Project #)
Project Manager: K. Tripp
ALPHAQuote #: 25256

Turn-Around Time

☑ Standard Due Date:
☐ Rush (only if pre-approved) # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

H&A Information

H&A Client: Northeastern University
H&A Address: 465 Medford Street, Suite 2200
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax: JBitney@haleyaldrich.com
H&A Email: CWorthy@haleyaldrich.com

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

Sample Filtration

☐ Done
☐ Lab to do

Preservation

☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	VOCs	SVOCs	MCP 14 Metals	PCBs	TPH	Waste Characteristics (1)	Herbicides / Pesticides	TCLP-LEAD	Sample Specific Comments	Total Bottles
~~76307~~-01	HA24-A4_0-5	12/27/23	0800	SO	CFT	5	X	X	X	X	X	X				
30602-01 02	HA24-A4_5-10	12/27	0820		CFT	10	X	X	X	X	X	X		X		

Container Type	A	A	A	A	A	A	A
Preservative	F	A	A	A	A	A	A

Preservative Code:
A = None
B = NaOH
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
I = Zn Ac/NaOH
J = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
C.T. Tierney CFT	12/27/23	[illegible]	12-27-23 1630
	12-29-23 MS	[illegible]	12/27 1750

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

ANALYTICAL REPORT

Lab Number:	L2400003
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Katelyn Tripp
Phone:	(617) 886-7482
Project Name:	NORTHEASTERN UNI. - NEW ARENA
Project Number:	134206-012
Report Date:	01/09/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400003
Report Date: 01/09/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2400003-01	HA24-A3_5-10	SOIL	BOSTON, MA	12/26/23 08:40	12/26/23
L2400003-02	HA24-B4_5-10	SOIL	BOSTON, MA	12/26/23 10:40	12/26/23
L2400003-03	HA24-TP2_0-5	SOIL	BOSTON, MA	12/26/23 11:20	12/26/23
L2400003-04	HA24-TP2_5-10	SOIL	BOSTON, MA	12/26/23 11:40	12/26/23

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400003
Project Number:	134206-012	**Report Date:**	01/09/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 01/09/24

METALS

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2400003
Project Number: 134206-012
Report Date: 01/09/24

SAMPLE RESULTS

Lab ID: L2400003-01
Client ID: HA24-A3_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 08:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.636		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 21:39	EPA 3015	1,6010D	CEY

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2400003
Project Number: 134206-012
Report Date: 01/09/24

SAMPLE RESULTS

Lab ID: L2400003-02
Client ID: HA24-B4_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 10:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	1.07		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 22:25	EPA 3015	1,6010D	CEY

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2400003
Project Number: 134206-012
Report Date: 01/09/24

SAMPLE RESULTS

Lab ID: L2400003-03
Client ID: HA24-TP2_0-5
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:20
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 22:28	EPA 3015	1,6010D	CEY

Project Name: NORTHEASTERN UNI. - NEW ARENA
Lab Number: L2400003
Project Number: 134206-012
Report Date: 01/09/24

SAMPLE RESULTS

Lab ID: L2400003-04
Client ID: HA24-TP2_5-10
Sample Location: BOSTON, MA

Date Collected: 12/26/23 11:40
Date Received: 12/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 01/04/24 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 22:31	EPA 3015	1,6010D	CEY

Project Name: NORTHEASTERN UNI. - NEW ARENA **Lab Number:** L2400003

Project Number: 134206-012 **Report Date:** 01/09/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-04 Batch: WG1871983-1										
Lead, TCLP	ND		mg/l	0.500	--	1	01/08/24 19:31	01/08/24 21:25	1,6010D	CEY

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 01/04/24 23:21

Lab Control Sample Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2400003

Report Date: 01/09/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-04 Batch: WG1871983-2								
Lead, TCLP	97		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400003
Report Date: 01/09/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1871983-3 QC Sample: L2400726-01 Client ID: MS Sample												
Lead, TCLP	ND	5.3	5.04	95		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NORTHEASTERN UNI. - NEW ARENA

Project Number: 134206-012

Lab Number: L2400003

Report Date: 01/09/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1871983-4 QC Sample: L2400726-01 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: NORTHEASTERN UNI. - NEW ARENA
Project Number: 134206-012

Lab Number: L2400003
Report Date: 01/09/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2400003-01I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L2400003-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L2400003-01X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L2400003-02I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L2400003-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L2400003-02X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L2400003-03I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L2400003-03X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L2400003-03X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L2400003-04I	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L2400003-04X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L2400003-04X9	Tumble Vessel	A	NA		2.6	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400003
Project Number:	134206-012	**Report Date:**	01/09/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400003
Project Number:	134206-012	**Report Date:**	01/09/24

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400003
Project Number:	134206-012	**Report Date:**	01/09/24

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NORTHEASTERN UNI. - NEW ARENA	**Lab Number:**	L2400003
Project Number:	134206-012	**Report Date:**	01/09/24

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial_No:01092415:31

1/4/24 L2400003

ALPHA	CHAIN OF CUSTODY	Service Centers Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043	Page 1 of 1	Date Rec'd in Lab 12/26/23	ALPHA Job # ~~L2376095~~ GRG

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

H&A Information

H&A Client:	Northeastern University
H&A Address:	465 Medford Street, Suite 2200
	Boston, MA 02129
H&A Phone:	617-886-7400
H&A Fax:	JBitney@haleyaldrich.com
H&A Email:	CWorthy@haleyaldrich.com

Project Information

Project Name:	Northeastern University - New Arena
Project Location:	Boston, MA
Project #	134206-012
(Use Project name as Project #) ☐	
Project Manager:	K. Tripp
ALPHAQuote #:	25256

Turn-Around Time

☑ Standard — Due Date:
☐ Rush (only if pre approved) — # of Days: 5

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other:

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

MA RCS-1

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Run TCLP when triggered at 20x, run HexCr when triggered.
(1) Corrosivity, ignitability, reactivity, conductivity

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Depth	~~VOCs~~	~~SVOCs~~	~~MCP-14 Metals~~	~~PCBs~~	~~TPH~~	~~Waste Characteristics (1)~~	Herbicides / Pesticides	TCLP-LEAD	Sample Specific Comments	Total Bottles
~~26095-01~~	HA24-A3_0-5	12/26/23	0830	SO	CFT		X	X	X	X	X	X				
0003-01 ~~-02~~	HA24-A3_5-10	↓	0840	↓	↓		X	X	X	X	X	X		X		
~~-03~~	HA24-A3_10-15		0850				X	X	X	X	X	X				
~~-04~~	HA24-B4_0-5		1030				X	X	X	X	X	X				
-02 ~~-05~~	HA24-B4_5-10		1040				X	X	X	X	X	X		X		
~~-06~~	HA24-B4_5-15	↓	1050	↓	↓		X	X	X	X	X	X				
-03 ~~-07~~	HA24-TP2_0-5	12/26/23	11:20	SO FILL	AEM	0-5	X	X	X	X	X	X		X		
-04 ~~-08~~	HA24-TP2_5-10	12/26/23	11:40	SO FILL	AEM	5-10	X	X	X	X	X	X		X		

Container Type	A	A	A	A	A	A	A		
Preservative	F	A	A	A	A	A	A		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code:
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
C.F. Turney	12/26/23	[signature]	12/26/2023
[signature]	12/26/23 1415	[signature] AAL	12/26/23 1416
[signature] AAL	12/26/23 1708	[signature]	12/26/23 1708

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2019-22-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 3 (1/7/2019)

APPENDIX D
Non-Traditional Asbestos Abatement Work Plan

NON –TRADITIONAL ASBESTOS ABATEMENT WORK PLAN
Northeastern University
Matthews Arena
238-262 St. Botolph Street
Boston, Massachusetts

Prepared by: Robert M. Pelletier of Woodard & Curran, Certified Asbestos Project Designer
Asbestos Abatement Project Designer License Number AD 000674

Asbestos Project Designer Signature **Date: 19 April 2024**

1.0 INTRODUCTION

This non-traditional Asbestos Abatement Work Plan ("NTWP") has been developed, on behalf of Northeastern University based on our understanding of the Contractor's proposed means and methods as described throughout this NTWP to outline the procedures to be followed, engineering and health & safety controls to be implemented, and other measures necessary for Northeastern University acting by and through its authorized contractors to conduct a project to excavate soils containing building debris including presumed asbestos-containing materials (PACM) from select locations at the Matthews Arena site located at 238-262 St. Botolph Street in Boston. The work described in this NTWP will be conducted as depicted on attached Figure 1: Site Plan.

The work under this NTWP will be conducted in conjunction with a Post Permanent Solution Release Abatement Measure (RAM) Plan associated with Release Tracking Number (RTN) 3-37948.

This NTWP requests approval, pursuant to 310 CMR 7.15 (14) (a) 6, to use non-traditional asbestos abatement work practices in connection with the excavation and bulk loading of soils containing PACM debris. This NTWP describes the alternative procedures that will be followed, with Massachusetts Department of Environmental Protection (MassDEP) approval, for handling, packaging, transporting, and disposing of soils containing PACM debris in a manner that provides appropriate protection to human health and the environment in place of the traditional work practices that would be otherwise required by the MassDEP Regulation 310 CMR 7.15 (the "Regulation").

Specifically, this plan requests relief from requirements of 310 CMR 7.15 (7)(c) including relief from removal of movable objects, for use of amended water, for covering of non-movable objects, for isolation of the work area, for the use of a negative pressure enclosure system, for covering of walls, floors, and ceilings as well as for providing work area ventilation. Compliance with these requirements is not feasible for this project since bulk loading of soils containing PACM debris is required. This work is eligible under 310 CMR 7.15 (14) (a) 6 to apply for approval to use non-traditional asbestos abatement work practices since bulk loading of soils which contain PACM debris is required. This NTWP describes the procedures to be followed for handling, packaging, transporting, and disposing of soils which contain PACM debris in a manner that provides appropriate protection to human health and the environment in place of standard work practices that would be otherwise required by the Regulation.

Notification of asbestos abatement activities on MassDEP Form AQ-04 (ANF-001) is being made to the Massachusetts Asbestos Program and to the City of Boston, and the required MassDEP Form BWP AQ-36 and $600 required fee are being submitted concurrently with this NTWP.

The intent of the project is to preclear (i.e., excavate) all soil containing PACM debris within the horizontal and vertical design limits of work and to lay marker barrier where soil containing PACM debris remains. Once marker barrier has been placed onto any soils remaining that contain PACM, the excavation will be backfilled and subsequently paved. The work described in this NTWP is scheduled to start on or about June 2024 and be completed by September 2024.

The Project Designer certification provided below is limited to a certification that the Contractor's proposed means and methods as described in this plan are consistent with general industry standards and best practices to manage asbestos-containing materials. The Project Designer's certification shall not be construed as an endorsement of the Contractor's compliance with other applicable Federal, State, or local rules, regulations, or guidelines.

Project Designer: Bob Pelletier (AD-000674)

Project Designer signature: _____ Date: _____

The Contractor certifies that it has developed and will implement the means and methods proposed to perform the asbestos abatement work as described herein, and, that the Contractor is responsible for compliance with other applicable Federal, State, or local rules, regulations, and guidelines.

Contractor signature: Don Lamentea Date: 4-17-24

2.0 BACKGROUND

The project will include the excavation of soils containing PACM at the western limits of the paved parking area of the Matthews Arena as shown on attached Figure 1: Site Plan. The excavation will include pre-clearing of all soils containing PACM to vertical and horizontal design limits. Orange geotextile marker barrier will be placed onto any soils that contain PACM debris that remain once vertical and horizontal design limits have been reached. The marker barrier and underlying soils containing PACM debris will be backfilled with clean, imported fill materials and the excavation area will be subsequently paved.

It is assumed that PACM debris is present within fill materials at areas of proposed excavation described in this NTWP based on previous test pit inspections and soil characterization activities performed within the proposed excavation area. It is believed that debris containing PACM debris is present in this specific area of the site due to the demolition of row houses once located in the area where building debris containing PACM has now been identified during test pit and soil characterization activities. This NTWP addresses work to be conducted only in that area where PACM debris is assumed to be present based on recent test pit inspections and soil characterization activities. No asbestos-specific work practices or engineering controls are anticipated in excavation areas where PACM debris has not been observed during previous test pit inspections or during previous soil characterization activities.

3.0 GENERAL METHODOLOGY

3.*1 General Excavation Procedures*

Fill soils at the excavation location depicted as Group II-6 soil or Group III-2/II-6 soil on the attached Figure 1: Site Plan will be treated as soils containing PACM debris, due to the presence of building debris similar to that found in recent exploratory test pits conducted in various areas representative of the excavation location. It is assumed that up to approximately 5,000 cubic yards (8,500 tons) of soil containing PACM debris will be removed and disposed of as part of this work. The existing fill soils containing PACM debris that require removal will be handled, packaged, transported, and disposed of as soils containing PACM debris in accordance with the work practices outlined in this NWTP.

Crews will use cones, rope, and other appropriate materials and equipment to set up an asbestos exclusion zone around all excavation areas where soils containing PACM are to be excavated or otherwise disturbed. Signs will be posted along the perimeter labeling the area as an asbestos exclusion zone. Only personnel with the proper training and PPE will be allowed inside the asbestos exclusion zone. Excavation equipment and crews will begin bulk excavation and loading of soils into dump trailers within the exclusion zone working from south to north. Live loading of all excavated soils containing PACM into lined transport vehicles is anticipated. Protective liners will be installed into the cargo beds of dump trailers at a lining station outside of the exclusion zone prior to loading. All truck traffic will then proceed in a one-way manner through the exclusion zone and exit the exclusion zone via the equipment decontamination pad. Truck routes, approximate locations of exclusion zone barriers, wash pad location and other controls are depicted on Figure 2: Site Logistics Plan – Phase 1 and Figure 3: Site Logistics Plan – Phase 2.

If any PACM debris remains once excavation has reached the vertical and horizontal design limits, abatement workers will place orange geotextile marker barrier on all remaining exposed soil containing PACM debris. The orange geotextile barrier will serve as a physical barrier and visual warning at locations where excavations were conducted, and undisturbed fill soils containing PACM debris were left in place. The undisturbed fill soils at the bottom and sides of excavations will be covered with the marker barrier unless the bottom and/or sides of the excavation do not contain PACM debris as determined by a licensed asbestos inspector. Crews will then move the exclusion zone perimeter to the limit of the orange marker barrier if orange marker barrier is required. Clean imported fill materials will then be placed over the previously installed marker barrier. The excavation will then be backfilled and paved.

Trench shields may be used to provide temporary earth support at the lateral limits of the excavation. In this case, excavation to remove soils would be conducted by placing the trench shield at the lateral limit of excavation and advancing the trench shield to the desired depth. Once the desired excavation depth is reached, the orange marker barrier will be placed where undisturbed fill soils potentially containing PACM debris are to be left in place at the sidewall of the excavation. Imported backfill material will be placed against the marker barrier to stabilize the sidewalls of the excavation. Once the sidewalls have been stabilized, the trench shield will be advanced along the sidewall of the excavation. This process will continue around the outer limits of the excavation until all sidewalls have been excavated to the lateral design limits and the sidewalls have been stabilized. Once the trench shield is no longer needed for sidewall support, the trench shield will be removed and decontaminated at the equipment wash pad.

3.2 *Temporary Cover Over Exposed Soils Containing PACM Debris*

It is anticipated that most soils containing PACM debris left in place will be covered by marker barrier promptly after being exposed. Regulated areas will be established around any areas where soils containing PACM debris are exposed; and exposed soils containing PACM debris will, at minimum, be covered with 6-mil polyethylene and ballast at the end of each workday.

3.3 *Temporary Stockpiling of Soils Containing PACM Debris*

If required, excavated soil containing PACM debris will be temporarily stockpiled within the limits of the asbestos exclusion area. Stockpiles will be placed on 10-mil reinforced polyethylene sheeting and will be covered with 10-mil reinforced polyethylene ballasted to protect against water or wind erosion. Stockpiling of soil containing PACM debris will be limited to less than 100 cubic yards at any time.

CONTRACTOR ROLES

General Contractor:
Suffolk Construction
65 Allerton Street
Boston, Massachusetts 02119

Asbestos Abatement Contractor:
Welch Environmental Corporation
35 Electric Avenue
Brighton, MA 02135

Asbestos Transportation
Charter Contracting Co./ LLC
500 Harrison Avenue, Suite 4R
Boston, MA 02118

Asbestos Disposal Facilities
Waste Management of NH-Turnkey Landfill (TREE), Rochester, NH
Waste Management of ME-Crossroads Landfill, Norridgewock, ME

Asbestos Design Consultant
Woodard & Curran, Inc.
40 Shattuck Road, Suite 110
Andover, Massachusetts 01810

Licensed Site Professional Consultant
Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Boston, Massachusetts 02129

4.0 QUALIFICATIONS OF FIELD PERSONNEL

Excavation and backfilling will be conducted by Welch Environmental Corporation (referred to in this

NTWP as the "Contractor"). Welch Environmental Corporation will be the licensed asbestos abatement contractor responsible for compliance with applicable regulatory requirements and for compliance with this NTWP. Welch Environmental Corporation is a licensed Asbestos Abatement Contractor (DLS License No. AC 000819). Welch Environmental Corporation will have certified asbestos supervisors on site overseeing activities involving handling of soils which contain PACM debris.

All persons entering asbestos-regulated work areas shall, at minimum, have current training that meets the requirements for asbestos-related training as specified in OSHA 29 CFR 1926.1101 and Massachusetts Department of Labor Standard 454 CMR 28.

Personnel conducting activities that may involve contact with soils containing PACM debris will have, at minimum, 32 hours of asbestos abatement worker's training and be licensed by the Massachusetts Department of Labor Standards (DLS) as asbestos abatement workers. Activities involving possible contact with PACM debris will be overseen by a DLS-licensed asbestos abatement supervisor. Persons who operate excavation equipment to disturb soils containing PACM debris shall, at minimum have 40-hour hazardous waste operations training as well as site-specific asbestos training. Persons who must enter asbestos-regulated areas to conduct testing, sampling, inspection, or other transient activities will have a minimum of 16-hours of asbestos training in accordance with training requirements of OSHA 29 CFR 1926.1101 for Class III asbestos work and the requirements of 454 CMR 28 for asbestos associated workers.

5.0 HEALTH AND SAFETY

Personnel handling or contacting soils containing PACM debris will, at minimum, wear disposable protective suits, including booties and head cover, and half-face, negative-pressure respirators equipped with P100 filters.

Employers whose employees work in the PACM regulated area will perform employee exposure monitoring. Employers will provide appropriate personal protective equipment to employees as specified herein or as warranted by site conditions and/or the results of employee personal exposure monitoring.

The work areas where soils containing PACM debris are being excavated shall be isolated from adjacent areas using asbestos warning tape and other appropriate methods as determined by the on-site OSHA competent person who shall hold a valid license as an asbestos abatement supervisor issued by the DLS. The Owner's asbestos design consultant, who shall hold a valid license issued by DLS as an asbestos abatement designer, may also determine the on-site requirements for isolation and demarcation of PACM work areas. Only properly trained and protected personnel shall be allowed to enter the PACM regulated areas. Regulated areas will be established around excavation and loading activities involving soils containing PACM debris as well as around the wash pads and transport routes. Active asbestos-regulated work areas shall be separated from non-asbestos work areas and from other, non-asbestos trades by a buffer zone of 20-foot width (minimum).

The MassDEP Northeast Regional Office (NERO) will be provided 24-hour notification of completion of work area preparations and engineering controls so that MassDEP can schedule a Site inspection prior to the beginning of work. The MassDEP NERO will also be provided notification upon completion of the work so that MassDEP can schedule a post construction inspection of the Site.

6.0 AMBIENT AIR MONITORING

Perimeter air sampling will be conducted by Environmental Health, Inc (EHI) of Dover, Massachusetts (the "Monitoring Sub-Consultant") working as a sub-consultant to Woodard & Curran. EHI shall staff the project with personnel who hold a valid license issued by DLS as asbestos abatement project monitors. Perimeter air monitoring will be performed to document the concentrations of airborne fibers during asbestos-related activities. Ambient air monitoring at four points around the circumference of the work area shall be performed on a continuous basis during any activities involving the disturbance of soils containing PACM debris. During a typical workday, two sets of samples will be collected, including one set for approximately half of the workday and then a second sample set for the remainder of the workday. Perimeter sampling will be conducted around each on-site activity involving disturbance of soils containing PACM debris. Each sample set will include four samples placed around the general circumference of the activities involving disturbance of soils containing PACM debris. Perimeter air samples will be analyzed for total airborne fibers using Phase Contrast Microscopy (PCM: NIOSH Method 7400 or equivalent) on the day the samples are collected. Sample analysis will be conducted on-site with results reported by EHI daily to Woodard & Curren. Woodard & Curren will in turn report the results by email daily to the asbestos abatement Contractor, Haley & Aldrich, to the Owner, and to MassDEP NERO.

If the air monitoring results reach or exceed the Massachusetts Department of Labor Standard's clean air criteria of one - one hundredth fibers per cubic centimeter (0.010 f/cc) of sampled air, then intrusive work shall be suspended. The work methods shall be evaluated prior to continuing any further work and MassDEP NERO shall be notified by telephone within 2 hours of knowledge. If the airborne fiber concentrations reach or exceed the Occupational Safety and Health Administration ("OSHA") eight-hour permissible exposure limit ("PEL") for asbestos of one-tenth fiber per cubic centimeter (0.10 f/cc) of sampled air, then intrusive work shall be suspended, and Mass DEP NERO shall be notified by telephone immediately. Air monitoring and analysis shall be performed by personnel who are properly trained and licensed in the Commonwealth of Massachusetts ("Commonwealth") as Asbestos Project Monitors.

Samples shall be collected with a minimum volume of 1,000 liters per sample. Air filter cassettes shall be changed periodically if required to prevent particulate overloading. Each air filter cassette shall have the start and stop time, and associated start and stop flow rates recorded in the monitor's' site log for review by MassDEP.

7.0 DUST CONTROL

The primary form of dust control to be utilized to minimize fugitive emissions at the site will be the application of water. Soils containing PACM debris shall be maintained wet throughout the handling process. An adequate supply of water for wetting the work area and any exposed soils containing PACM debris shall be available while PACM debris-related work is being performed and shall be applied continuously as necessary for weather conditions. Water will be provided by a fire hydrant on site or by a water tank and associated pump. The feed servicing the equipment wash pad will be a separate hose connection from a fire hydrant or from a water wagon/water truck. PACM debris-related work shall be suspended should the supply of water be interrupted for any reason. Visible emissions shall not be allowed. Work will be suspended if visible dust is observed from work or from other activities conducted within asbestos-regulated areas. Visible emissions from non-suspect sources such as vehicle exhausts, road dust (uncontaminated construction areas), pollen, etc. will not be considered cause for work stoppage. Water hoses and pumps will be disconnected and stored in

heated spaces during freezing conditions to prevent ice blockages.

8.0 RESPONSE PLAN

If for any reason efforts being employed to control dust and maintain airborne fiber concentrations below 0.010 f/cc fail, the following response actions will be implemented in the specified order:

- The asbestos monitor shall notify the Contractor, and asbestos-related activities will be halted.
- The asbestos monitor will notify the Owner and the MassDEP NERO.
- The Contractor will either implement additional control measures as necessary or suspend intrusive work until surrounding site conditions improve sufficiently to resume PACM debris-related activities.

9.0 COMPLETION CRITERIA

The PACM debris–related excavation activities will be considered complete when the asbestos monitor determines that excavated soils requiring removal have been removed, packaged, and transported from the site as described in this NTWP, and that remaining undisturbed fill soils containing PACM debris beneath or adjacent to excavation areas have been covered with the orange marker barrier overlain by clean cover/fill material. Soils requiring removal shall include all soils that contain fill materials, construction debris, ash, brick, or other non-natural materials that are encountered within the vertical and horizontal design limits of excavation.

10.0 EQUIPMENT DECONTAMINATION

The soil transport vehicles will be decontaminated using the vehicle wash pad constructed by the asbestos Contractor as shown on the attached Figure 4: Wheel Wash Detail. The wash pad will be constructed using 40 mil roofing rubber membrane as the base. Six inches of crushed stone will be placed onto the rubber membrane to allow for drainage of the wash water. The wash pad shall be pitched to allow for wash water to drain to a collection point at one corner of the wash pad. Collected water will be filtered through a 5-micron filter before discharge to the ground or used to wet soil containing PACM. If loaded trucks travel on soils that contain PACM debris between the location of loading and the location of the wash pad, then the existing soils over which the loaded vehicles travel will be removed to a depth of six inches and replaced with six inches of clean, imported fill materials at the completion of loading activities. The routes between the loading activities and the wash pads will be demarcated and managed as PACM debris-regulated areas. Once the loaded vehicles have been sealed and washed, the loaded vehicle will leave the site using those general truck routes that are indicated on Figure 2: Site Logistics Plan – Phase 1 and Figure 3: Site Logistics Plan – Phase 2.

The bucket of excavators used to remove soils containing PACM debris will be decontaminated by positioning the bucket above the waste disposal trailer and washing the bucket once contact with soils containing PACM debris has been completed, or when transitioning to new tasks involving the handling of non-PACM debris impacted materials. The wash water from the bucket decontamination process will be allowed to fall onto the waste trailer to be disposed of as asbestos waste. Alternatively, the bucket or other excavator components that have become contaminated with soils containing PACM will be decontaminated at the equipment wash pad.

11.0 TRANSPORT AND DISPOSAL

It is the responsibility of the Contractor to determine current waste handling, transportation, and disposal regulations. Soils containing PACM debris, as well as used PPE and used polyethylene sheeting will be transported by Charter Contracting Co./ LLC using semi-tractor and hydraulic dump trailer combination vehicles. The disposal locations for soils containing PACM debris will be Waste Management of NH-Turnkey Landfill (TREE) in Rochester, New Hampshire and Waste Management of ME-Crossroads Landfill in Norridgewock, Maine.

The Contractor, transporter and landfill shall document generation, transportation, and disposal of the waste at the designated landfill by completing a Waste Shipment Record and forwarding the original copy, signed by the landfill, to the Owner within the time period specified by the EPA. The Contractor shall provide one copy of the waste shipment record to the asbestos project monitor prior to the waste leaving the Site. This original copy shall be matched to the copy signed by the landfill once the waste has been disposed of. A copy of each waste shipment record will be forwarded to MassDEP NERO by the asbestos project monitor on the day the waste leaves the site.

Waste materials including soils containing PACM debris as well as used PPE and polyethylene sheeting will be handled, loaded, transported, and disposed of as regulated asbestos waste, in accordance with 310 CMR 7.15 (c) as well as other applicable federal, state, and local requirements. The cargo area of the transport vehicles shall be lined with two 10-mil liners prior to loading. The liners shall be prefabricated with chemically bonded or heat-welded seams and shall be sized to fit the cargo area of the vehicle being used. Field fabrication of liners using flat stock and duct tape, or other sealants will not be allowed.

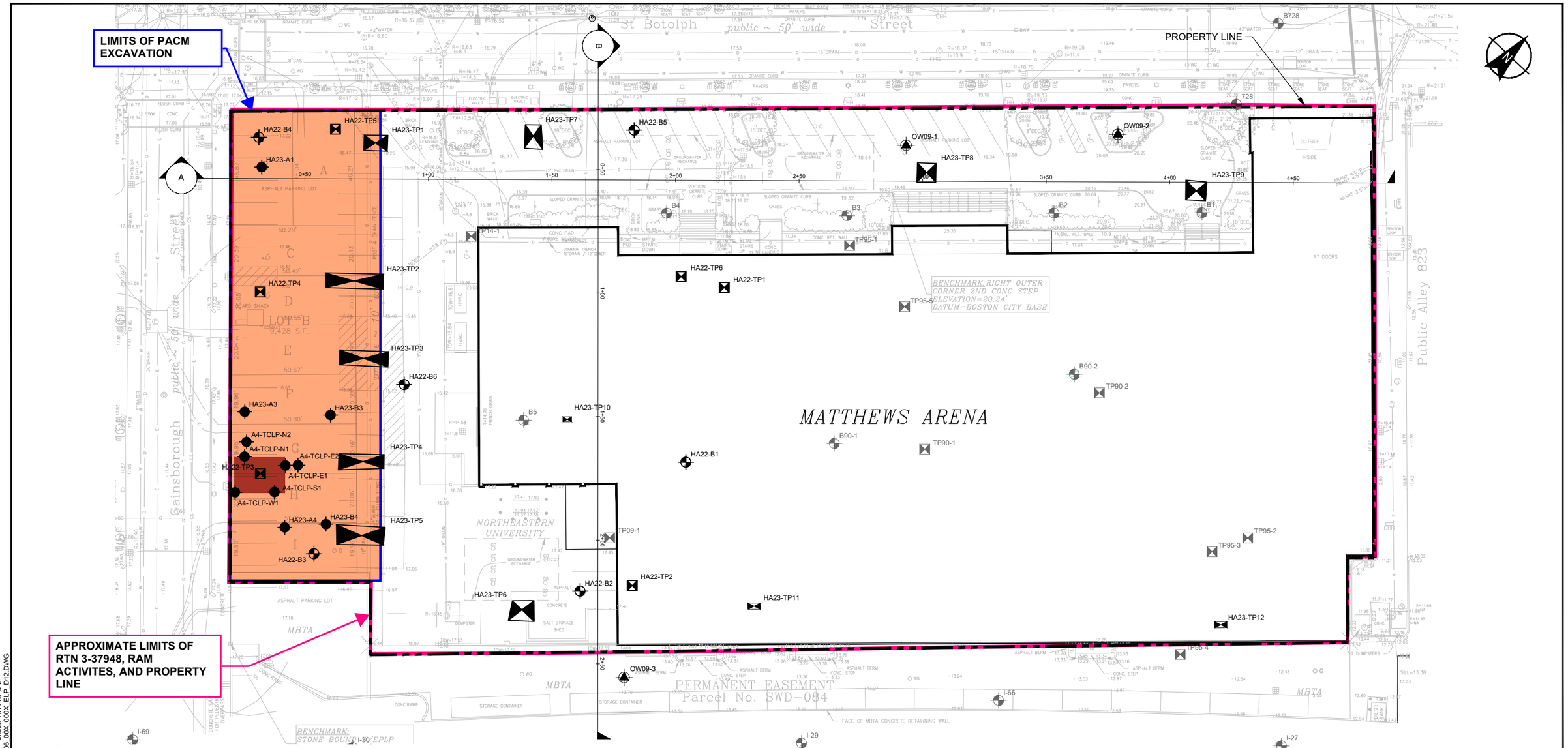
After the waste materials are loaded into a lined transport vehicle but prior to the vehicle leaving the site, the liners shall be sealed over the load using spray glue and duct tape. Warning labels as required by OSHA 29 CFR 1926.1101 shall be posted on the load after the load is sealed and before the load leaves the site. “Generator Labels” shall also be posted on the load after the load is sealed and before the load leaves the site. The asbestos project monitor will then inspect the load. Following a successful inspection by the project monitor, the road cover will be secured over the load. DOT placards for reportable quantities of bulk loaded asbestos (”2212”) will be installed at the four sides of the transport vehicle prior to the vehicle leaving the site.

The landfills listed above where materials are to be disposed of are licensed to accept the asbestos waste by the State where the landfills are located.

ATTACHMENTS

Figures

- Figure 1: Site Plan
- Figure 2: Site Logistics Plan – Phase 1
- Figure 3: Site Logistics Plan – Phase 2
- Figure 4: Wheel Wash Detail



LEGEND

- DESIGNATION AND APPROXIMATE LOCATION OF PUSHPROBE PERORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING 26 DECEMBER 2023 TO 27 DECEMBER 2023 AND MONITORED BY HALEY & ALDRICH, INC.
- HA22-B# — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING 5 JULY 2022 TO 18 AUGUST 2022 AND MONITORED BY HALEY & ALDRICH, INC.
- OW09-# B3## (OW) B105(OW) — DESIGNATION AND APPROXIMATE LOCATION OF MONITORING WELL INSTALLED BY NEW HAMPSHIRE BORING, INC. DURING 18 MAY 2006 TO 14 DECEMBER 2009 AND MONITORED BY HALEY & ALDRICH, INC.
- DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING PERFORMED BY OTHERS
- HA23-TP# — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY JAMES W. FLETT CO. INC. DURING 19 DECEMBER 2023 TO 28 DECEMBER 2023 AND MONITORED BY HALEY & ALDRICH, INC.
- HA23-TP# — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY JAMES W. FLETT CO. INC. DURING 19 DECEMBER 2023 TO 28 DECEMBER 2023 AND MONITORED BY HALEY & ALDRICH, INC.
- HA22-TP# — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY J. DERENZO CO. IN AUGUST 2022 AND MONITORED BY HALEY & ALDRICH, INC.
- **GROUP II-6** (MATERIALS THAT CONTAIN ACM DEBRIS AND REQUIRE REMOVAL TO OUT-OF-STATE LINED SOLID WASTE (SUBTITLED D) LANDFILLS)
- **GROUP III-2/II-6** (HAZARDOUS WASTE MATERIALS THAT ARE CAPABLE OF BEING TREATED ON SITE AND ALSO CONTAIN ACM DEBRIS AND REQUIRED REMOVAL TO OUT-OF-STATE LINED SOLID WASTE (SUBTITLE D) LANDFILLS)

0 20 40 60 80
SCALE IN FEET

NOTES

1. BASE PLAN REFERENCES DRAWING TITLED "NU-MATTHEWSARENATOPO-XP-MODEL.DWG", DATED 19 MAY 2022, BY R.E. CAMERON & ASSOCIATES, LLC. RECEIVED ON 28 JUNE 2022.
2. LOCATION OF EXPLORATIONS SHOULD BE CONSIDERED APPROXIMATE.

HALEY ALDRICH

MULTI-PURPOSE ARENA
NORTHEASTERN UNIVERSITY
BOSTON, MASSACHUSETTS

SITE PLAN

SCALE: AS SHOWN
APRIL 2024

FIGURE 1

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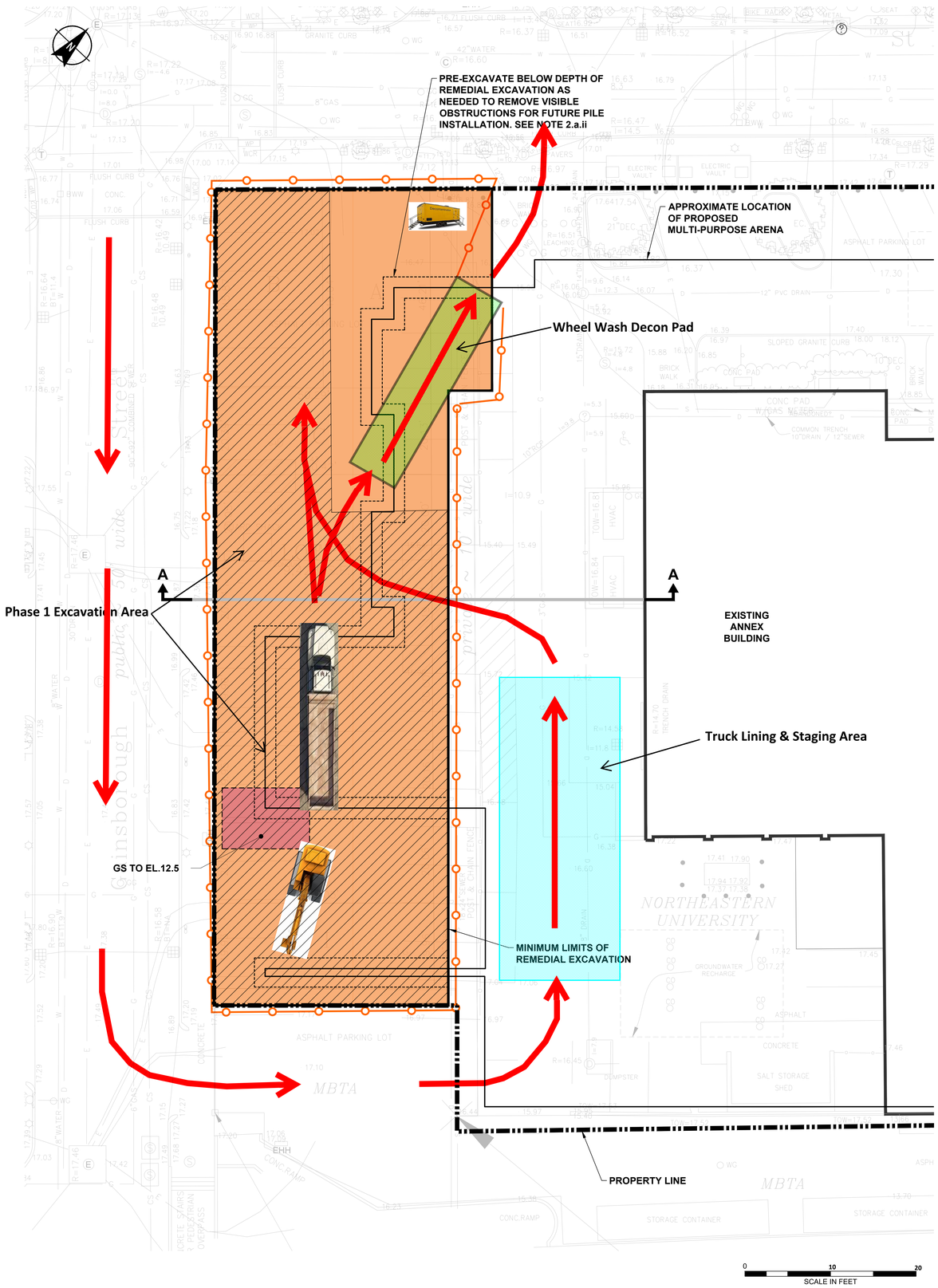
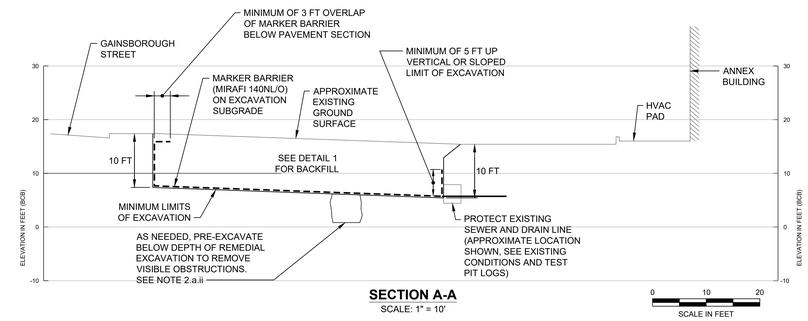
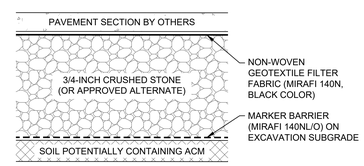
FIGURE 1

SITE LOGISTICS PLAN - PHASE 1





SECTION A-A
SCALE: 1" = 10'



DETAIL 1 - BACKFILL MATERIALS
NOT TO SCALE

SITE LOGISTICS KEY

- Exclusion Zone
- Truck Route
- Wheel Wash Decon Pad
- Truck Lining/Staging Area
- Excavator
- Dump truck
- Decon Trailer

SOIL MANAGEMENT KEY

GROUP II-6 (MATERIALS THAT CONTAIN ACM DEBRIS AND REQUIRE REMOVAL TO OUT-OF-STATE LINED SOLID WASTE (SUBTITLED D) LANDFILLS)

GROUP III-2/II-6 (HAZARDOUS WASTE MATERIALS THAT CONTAIN ACM DEBRIS WHICH SHALL BE TREATED IN-SITU PRIOR TO REMOVAL TO OUT-OF-STATE LINED SOLID WASTE (SUBTITLE D) LANDFILLS

GS EXTERIOR GROUND SURFACE

ACM ASBESTOS CONTAINING MATERIAL

NOTES

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   c. ASBESTOS CONTAINING MATERIAL IS ABBREVIATED TO ACM.

2. **EXCAVATION CRITERIA**
   a. THE EXCAVATION DEPTH WITHIN THE MINIMUM LIMITS OF REMEDIAL EXCAVATION SHALL MEET THE FOLLOWING CRITERIA:
      i. EXCAVATE TO A DEPTH OF 10 FEET BELOW GROUND SURFACE (BGS)
      ii. PRE-EXCAVATE ALONG THE ALIGNMENT OF PROPOSED ARENA WALL WITHIN LIMITS OF REMEDIAL EXCAVATION, AT LEAST 5 FEET WIDE, TO REMOVE VISIBLE OBSTRUCTIONS, REMANENT BUILDING MATERIALS, CONCRETE, GRANITE BLOCKS, ETC. EXCAVATED SOIL FROM PRE-TRENCHING BELOW 10 FT MAY BE PLACED BACK BELOW 10 FT, AFTER REMOVAL OF ACM DEBRIS AND OBSTRUCTION AND SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE.
      iii. IF WOOD PILES ARE ENCOUNTERED WITHIN REMEDIAL EXCAVATION ALONG THE ALIGNMENT OF THE PROPOSED ARENA, SURVEY WOOD PILE LOCATION AND ELEVATION. REFER TO SPECIFICATION SECTION 310000 - EXCAVATION AND BACKFILLING FOR ADD ALTERNATE TO EXTRACT WOOD PILES
   b. THE CONTRACTOR SHALL DETERMINE THE METHOD OF SHORING (TRENCH BOX, SLIDE RAIL, OTHER) TO MEET THE EXCAVATION DEPTH, BACKFILLING, AND MARKER BARRIER REQUIREMENTS.
   c. MANAGEMENT OF SOIL, ASPHALT, BRICK, CONCRETE (ABC), AND DEBRIS SHALL BE CONDUCTED IN ACCORDANCE WITH THE RELEASE ABATEMENT MEASURE (RAM) PLAN AND NON-TRADITIONAL WORK PLAN (NTWP).
   d. EXCAVATED MATERIAL AND OPEN EXCAVATIONS SHALL BE WETTED TO CONTROL DUST IN ACCORDANCE WITH THE RAM AND NTWP.
   e. GROUNDWATER HAS BEEN MEASURED AT EL. 4 TO 7 BCB (11 TO 14 FT BELOW GROUND SURFACE) GROUNDWATER IS NOT ANTICIPATED WITHIN THE REMEDIAL EXCAVATION. IF GROUNDWATER IS ENCOUNTERED, LIMITED EXCAVATION MAY BE PERFORMED IN THE WET TO REMOVE OBSTRUCTIONS, OR LOCALIZED PUMPING MAY BE USED TO PLACE BACKFILL MATERIAL IN-THE-DRY. NO OFF-SITE DISCHARGE WILL BE ALLOWED FOR THIS PHASE OF WORK. THE GROUNDWATER MAY BE RECHARGED WITHIN THE REMEDIAL EXCAVATION.
   f. REFER TO SPECIFICATION SECTION 310000 - EXCAVATION AND BACKFILLING FOR FURTHER EXCAVATION CRITERIA.

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   a. FOLLOWING REMEDIAL EXCAVATION, THE CONTRACTOR SHALL PLACE A ORANGE MARKER BARRIER ON SUBGRADE WITHIN REMEDIAL EXCAVATION LIMITS. MARKER BARRIER SHALL BE WRAPPED ON AS INDICATED IN SECTION A-A OR DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.
   b. GENERAL BACKFILL MATERIAL SHALL CONSIST OF ¾-INCH CRUSHED STONE (OR APPROVED ALTERNATE) BELOW THE PAVEMENT SECTION.
   c. SEE DRAWINGS BY OTHER FOR PAVEMENT SECTION.
   d. REFER TO SPECIFICATION SECTION 310000 - EXCAVATION AND BACKFILLING FOR MATERIAL AND BACKFILLING CRITERIA.

NORTHEASTERN UNIVERSITY MATTHEWS ARENA SOIL REMEDIATION LOGISTICS PLAN

THE WELCH CORP. Contractors

Perkins&Will
225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

ASSOC. ARCHITECT
DREAM COLLABORATIVE
75 ARLINGTON STREET, FL 10, BOSTON, MA 02116
CIVIL
SAMIOTES CONSULTANTS, INC.
20 A STREET FRAMINGHAM, MA 01701
STRUCTURAL
LEMESSURIER
1380 SOLDIERS FIELD ROAD, BOSTON, MA 02135
ASSOCIATE STRUCTURAL ENGINEER
EDG, INC.
350 MAIN STREET #29
MALDEN, MA, 02148
MEP
RIST-FROST-SHUMWAY
24 FEDERAL STEET, BOSTON, MA 02110
ASSOCIATE PLUMBING ENGINEER
VAV INTERNATIONAL INC.
400 CUMMINGS PARK DR #4700
WOBURN, MA 01801
LANDSCAPING
STUDIO 2112
705 CENTRE STREET UNIT 4
BOSTON, MA 02130
CODE
HOWE ENGINEERS
141 LONGWATER DRIVE, SUITE 110,
NORWELL, MA 02601
GEOTECHNICAL
HALEY & ALDRICH, INC.
465 MEDFORD STREET, SUITE 2200,
BOSTON, MA 02129
OWNER
NORTHEASTERN UNIVERSITY
10 GAINSBOROUGH STREET,
BOSTON, MA 02115

REMEDIAL EXCAVATION AND ON-SITE TESTING MARCH 8, 2024

PROJECT
Northeastern University Multi-Purpose Arena
238-262 St. Botolph St
Boston, MA 02115

NU

KEYPLAN

ISSUE CHART

SHEET 1/2

MARK	ISSUE	DATE
Job Number		159025

TITLE
REMEDIAL EXCAVATION PLAN

SHEET NUMBER
GT-1

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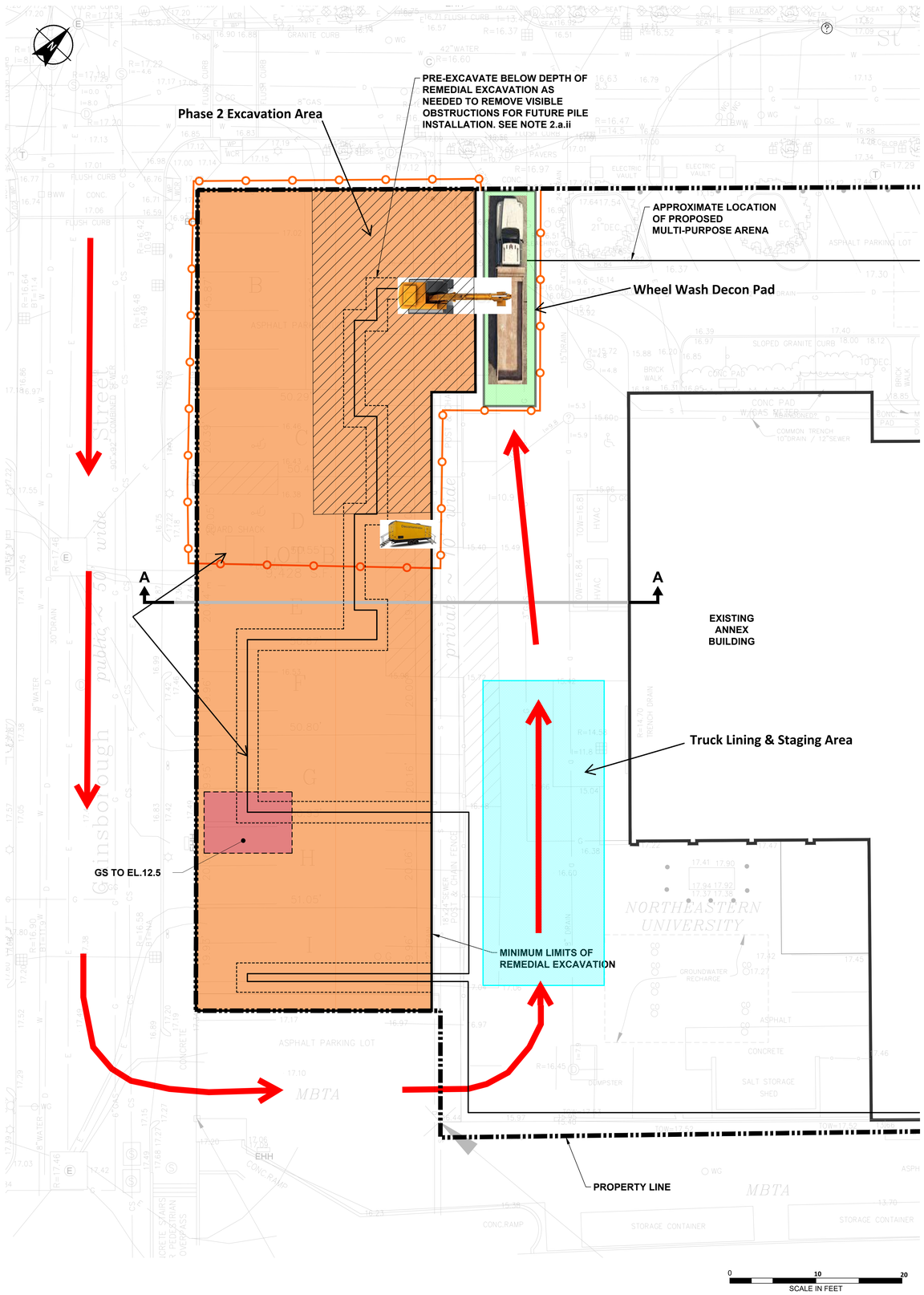
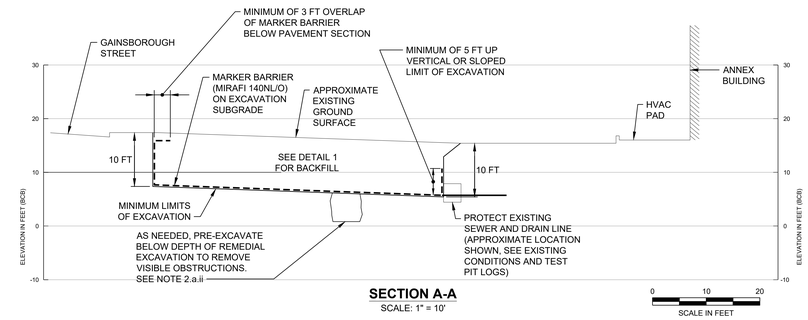
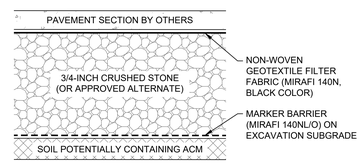
FIGURE 3

SITE LOGISTICS PLAN - PHASE 2





SECTION A-A
SCALE: 1" = 10'



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NOT TO SCALE

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SOIL MANAGEMENT KEY

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ACM	ASBESTOS CONTAINING MATERIAL

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NORTHEASTERN UNIVERSITY MATTHEWS ARENA SOIL REMEDIATION LOGISTICS PLAN

THE WELCH CORP. Contractors

ALBERT J. WELCH EQUIPMENT CORP.

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

ASSOC. ARCHITECT
DREAM COLLABORATIVE
75 ARLINGTON STREET, FL 10, BOSTON, MA 02116

CIVIL
SAMIOTES CONSULTANTS, INC.
20 A STREET FRAMINGHAM, MA 01701

STRUCTURAL
LEMESSURIER
1380 SOLDIERS FIELD ROAD, BOSTON, MA 02135

ASSOCIATE STRUCTURAL ENGINEER
EDG, INC.
350 MAIN STREET #29
MALDEN, MA, 02148

MEP
RIST-FROST-SHUMWAY
24 FEDERAL STEET, BOSTON, MA 02110

ASSOCIATE PLUMBING ENGINEER
VAV INTERNATIONAL INC.
400 CUMMINGS PARK DR #4700
WOBURN, MA 01801

LANDSCAPING
STUDIO 2112
705 CENTRE STREET UNIT 4
BOSTON, MA 02130

CODE
HOWE ENGINEERS
141 LONGWATER DRIVE, SUITE 110,
NORWELL, MA 02601

GEOTECHNICAL
HALEY & ALDRICH, INC.
465 MEDFORD STREET, SUITE 2200,
BOSTON, MA 02129

OWNER
NORTHEASTERN UNIVERSITY
10 GAINSBOROUGH STREET,
BOSTON, MA 02115

REMEDIAL EXCAVATION AND ON-SITE TESTING MARCH 8, 2024

PROJECT

Northeastern University Multi-Purpose Arena

238-262 St. Botolph St
Boston, MA 02115

NU

KEYPLAN

ISSUE CHART

SHEET 2/2

MARK	ISSUE	DATE
Job Number		159025

TITLE

REMEDIAL EXCAVATION PLAN

SHEET NUMBER

GT-1

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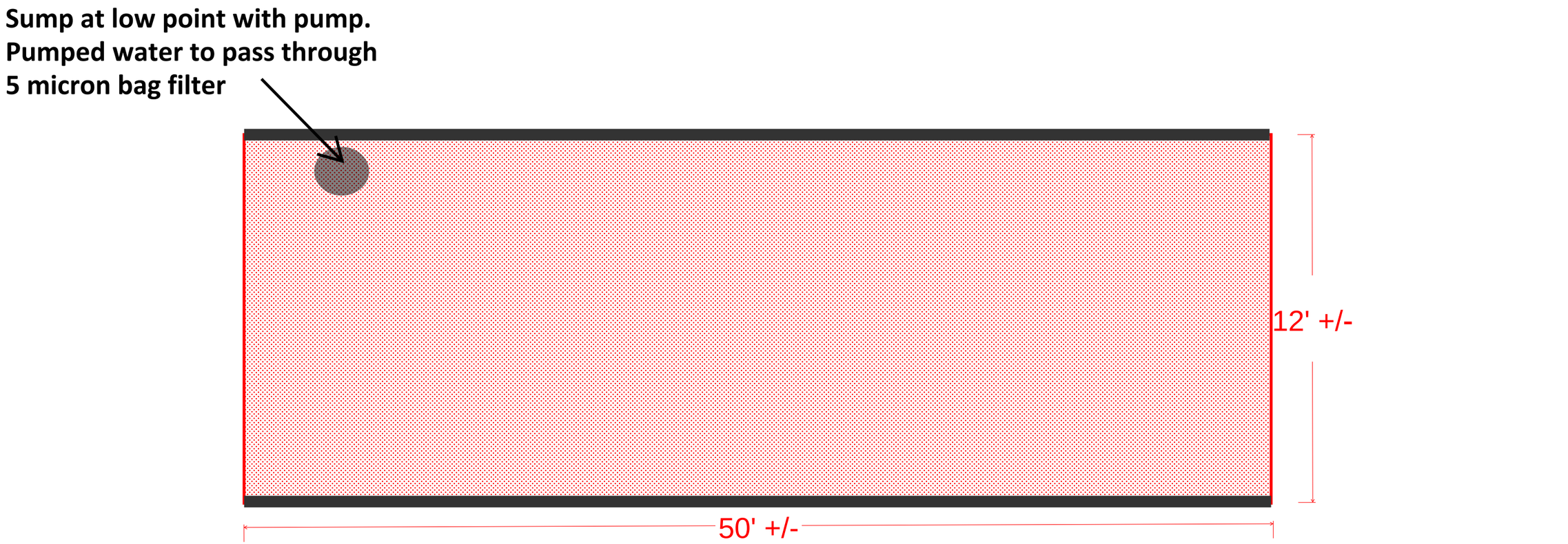
Sheet: E007

TRUCK & EQUIPMENT DECON WHEEL WASH PAD



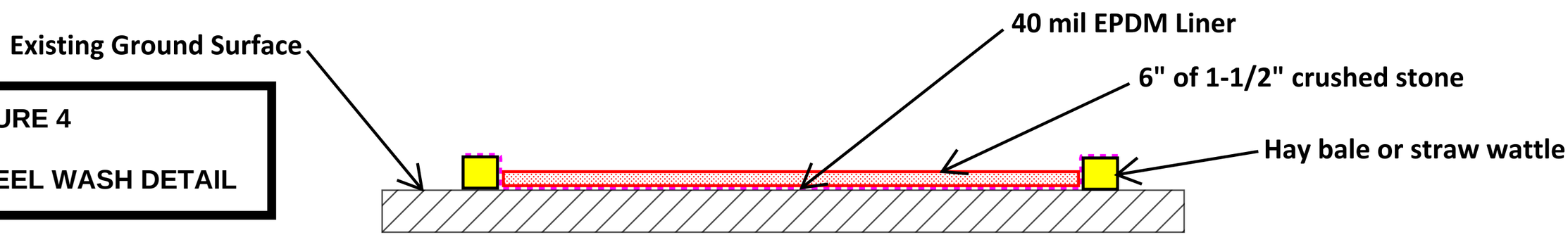


FIGURE 4

WHEEL WASH DETAIL

NORTHEASTERN UNIVERSITY
MATTHEWS ARENA
SOIL REMEDIATION

NTS

THE WELCH CORP. Contractors

APPENDIX E
Health and Safety Specifications

SECTION 00 73 19

ENVIRONMENTAL HEALTH AND SAFETY

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Contractor shall conduct work:

1. In Level C with a respirator and other necessary personal protection equipment (PPE) for the excavation of soil and building debris containing asbestos containing material (ACM) debris inside an exclusion zone as defined by a licensed ACM abatement Contractor.
2. In Level D PPE in other areas of the site.

B. The Contractor shall prepare and implement one global, all encompassing, site-specific Health and Safety Plan (H&SP) to protect the health and safety of all workers (including subcontractors) engaged in activities where exposure to contaminated soil is possible, as determined by a Qualified Health Professional (QHP) retained by the Contractor. One H&SP shall be prepared by the Construction Manager/General Contractor for the project that is applicable to all subcontractors, workers, etc. Individual H&SPs by subcontractors need to be coordinated. The H&SP shall also be designed to protect the general public and the environment during the Work. The H&SP shall include, as a minimum, the following:

1. Procedures to protect worker and public health and safety from exposure to oil and/or hazardous materials that may originate from or be present at the project site, including procedures to contain oil and/or hazardous materials.
2. Procedures for monitoring, controlling, and mitigating fugitive dust, odors, and gases to protect worker and public health and safety.
3. Procedures to decontaminate vehicles and equipment to prevent the spread of urban fill soil and ACM debris from the Work area.
4. Procedures to secure on-site work areas.
5. Procedures to protect workers and the general public during all aspects of construction. These procedures shall address physical aspects of health and safety, as well.

C. Conduct a health and safety coordination meeting prior to commencement of excavation work at the site to inform workers of the site conditions and proposed health and safety contingency actions. Inform new workers of the site conditions and proposed health and safety contingency actions on a continuous basis.

D. The scope and detail of the H&SP shall be commensurate with the degree and nature of the risks posed to human (worker and public) and ecological populations by the Work as determined by the Contractor's QHP. Standardized health and safety plans may be appropriate for non-intrusive or routine activities conducted at the site.

E. The Contractor shall appoint an OSHA-qualified Health & Safety Supervisor/ Coordinator who will be charged with overseeing site health and safety, instrument

monitoring, personnel and equipment decontamination, control of equipment check-out, dust monitoring, odor monitoring, gas monitoring, and emergency response.

1.2 RELATED SECTIONS

A. Section 02 06 30 – Subsurface Explorations

B. Section 02 30 00 – Subsurface Data

C. Section 31 00 00 – Excavation and Backfilling

D. Section 31 23 20 – Excavated Soil and Material Management Plan

E. Section 31 62 00 – Energy Pile Test Program

1.3 DEFINITIONS

A. Owner: Northeastern University

B. Architect: Perkins & Will.

C. Owners Representative: Authorized representatives of the Owner. For the work covered under this Section, this term will include Haley & Aldrich, Inc. or other sub-consultant hired to represent the Owner related to this section.

D. Asbestos Monitor: Authorized 3rd party asbestos monitoring service hired by the Owner.

E. Remedial Excavation: Zone of anticipated excavation limits presented on GT-1 and referenced herein.

F. Qualified Health Professional (QHP): A person retained by the Contractor to prepare the Contractor's H&SP and for quality control as specified herein. The QHP shall have a minimum of 5 years' experience in this work, certification as a safety professional qualified by training and experience to act in this capacity, and certification as having completed the 40-hour OSHA health and safety training course, with current 8-hour refresher training and 8-hour OSHA manager's training. The QHP shall assume the role of Site Health and Safety Officer, as described below.

G. Site Health and Safety Officer (SHSO) (may be the same as the QHP): A person retained by the Contractor to oversee all aspects of safety, including to perform field testing for evaluation of environmental contaminants and compounds of concern in air, soil, and groundwater in accordance with the Contractor's H&SP. The SHSO shall have a minimum of 5 years' experience in this work, certification as a safety professional qualified by training and experience to act in this capacity, and certification as having completed the 40-hour OSHA health and safety training course, with current 8-hour refresher training and 8-hour OSHA manager's training.

H. MassDEP: Massachusetts Department of Environmental Protection

I. EPA: U.S. Environmental Protection Agency

J. MCP: Massachusetts Contingency Plan

K. OSHA: Occupational Safety and Health Administration

L. PID: Photoionization Detector

M. H&SP: Health and Safety Plan

1.4 REFERENCE STANDARDS

A. NIOSH/OSHA/USCG/EPA: "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," DHHS/NIOSH Pub. No. 85-115, October 1985

B. OSHA: Part 29 CFR 19.10.134; 1910.1001-1046

C. EPA: Executive Orders 12223, 1440.2 and 1440.3

D. EPA: Executive Order 3100.1

E. ACED: "Health and Safety Guidelines for Hazardous Waste Site Investigations"

F. 29 CFR 1910: Safety and Health Regulations for General Industry, OSHA, as amended 10/86

G. 29 CFR 1926: Safety and Health Regulations for Construction, OSHA, as amended 1974

H. Protection Health and Safety at Hazardous Waste Sites: An Overview, USEPA, 9/85 EPA/625/9-85/006

I. 454 CMR 10, Massachusetts Division of Labor and Industry

J. 105 CMR 670.000 and 441 CMR 21.00 (Right to Know)

1.5 PROJECT CONDITIONS

A. Refer to Section 01 20 00 – Subsurface Data

B. Urban fill soil containing ACM debris shall be excavated within the vertical and horizontal design limits shown on the drawings. Miscellaneous debris may be present in the zone of excavation, including debris containing ACM, bricks, former structures associated with historical row houses, and foundation elements are present in the remedial excavation area.

C. Soil containing concentrations of contaminants exceeding Massachusetts Contingency Plan (MCP) RCS-1 criteria have been identified at the site. Soil management activities are subject to MCP requirements including the forthcoming Release Abatement Measure (RAM) Plan. Additionally, fill soil containing ACM debris has been identified on the site. Soil management activities are subject to the site Non-Traditional Asbestos Abatement Work Plan (NTWP) which will be filed by the Owner.

D. Asbestos-containing material (ACM) has been identified in the debris in fill soils within the Remedial Excavation shown on GT-1 in the general area of Work planned at the site. Work will be conducted in accordance with a NTWP, which will be filed by the Owner. Specific health and safety precautions required to be conducted related to ACM debris in the fill soils are outlined in 310 CMR 7.00 Air Pollution Control Regulations, the NTWP, and all other applicable local, state, and federal laws and regulations.

E. Management of excavated soils and collected wash water from decontamination activities shall be conducted in accordance with the requirements of this Section, Sections 31 23 20 – Excavated Soil and Material Management Plan, the MCP, 310 CMR 7.00 Air Pollution Control Regulations, the NTWP, and the Contractor's approved H&SP.

F. The nature of the materials present at the site may require use of special protective clothing and other protective measures, which is intended to minimize worker exposure to known or suspected site hazards.

1. Levels of personal protection are established in reference standards and generally described for Levels C and D herein. It is anticipated that work within the Remedial Excavation zone will be performed at Personnel Protection Level C.
2. The Contractor shall be responsible for determining if a higher level of personnel protection is required based on the criteria outlined in the Contractor's H&SP. In the event that the Contractor determines that a level of protection higher than Level D is required, the Contractor's personnel shall take the necessary steps outlined in the Contractor's H&SP.
3. The Contractor shall notify the Owner's Representative in writing prior to implementing any upgrades in personal protection. The Owner's Representative will review the Contractor's notification and determine the need to notify applicable agencies. The Contractor shall notify all agencies having jurisdiction over the Work, only after consulting with the Owner and Owner's Representative.

1.6 QUALITY CONTROL

A. The Contractor shall be solely responsible for exercising reasonable precaution to protect the health and safety of all on-site personnel, the general public, and the environment during the Work. The Contractor shall comply with all applicable provisions of federal, state, and local health and safety and occupational health and safety statutes and codes.

B. The Contractor is required to notify all workers of the contaminated soil that is present, and to be alert for evidence of contaminated soils and groundwater. The Contractor shall notify the Owner's Representative of the presence of potentially hazardous conditions, if encountered.

C. Opinions of the Owner's Representative or the Owner regarding anticipated site conditions do not relieve the Contractor of its responsibility to protect the health and safety of all on-site personnel, the general public, and the environment during the Work.

D. Ambient Air Monitoring

1. The QHP shall determine the air monitoring protocol for the Contractor within the Remedial Excavation and other work areas on the site for the compounds of concern (fugitive dust, odors, and gases) during those activities where exposure to contaminated soil or groundwater is possible using instruments as described in the Contractor's H&SP. The instruments shall be used in accordance with the procedures outlined in the Contractor's H&SP.
2. The Contractor shall not undertake any Work until the Owner's Representative has approved the Contractor's H&SP.
3. Perimeter fiber air monitoring will also be conducted by Asbestos Monitor to document the concentrations of airborne fibers during asbestos-related activities. Ambient air monitoring at four points around the circumference of the work area shall be performed on a continuous basis during any activities involving the disturbance of soils containing ACM debris in accordance with the NTWP.
4. If necessary, the Owner's Representative will monitor air quality for the Owner's Representative's employees, only, according to the procedures outlined in the Owner's Representative's H&SP. The information obtained by the Owner's Representative using the instruments will be made available to the Contractor upon request.

1.7 SUBMITTALS

A. Submit to the Owner's Representative an H&SP prepared by the Contractor's QHP. The H&SP shall apply to all work to be conducted at the site, taking into consideration all workers on site, the general public, and the environment. Training will not be provided by the Owner or the Owner's Representative. The plan shall include the following information:

1. A list of the Contractor's work tasks that may involve contact, and/or handling of contaminated soil or groundwater.
2. Compounds of concern that may be encountered during the course of the Work and signs/symptoms of exposure.
3. Potential for worker exposure to compounds of concern for each work task.
4. Requirements for OSHA training for each work task and a record or schedule for training of Contractor and subcontractor workers in the use of personal protective equipment.
5. Work task specific levels of protection and a description of health and safety equipment, including protective clothing, and monitoring instruments.
6. Procedures for containing oil/and or hazardous materials such as, decontamination of heavy construction equipment and tools.
7. Procedures of monitoring, controlling, and mitigating fugitive dust, odors and gases for each work task to protect worker and public health and safety, including descriptions of monitoring instruments and action levels triggering responses by the Contractor (i.e., donning personal protective equipment).
8. Emergency Response Plan.

B. The H&SP must be completed for discussion at the H&S coordination meeting scheduled by the Contractor and held at least 3 days prior to commencement of work relating to possible exposure to soils at the site. The Contractor shall provide written notice of this meeting to all interested parties at least 5 days before the meeting.

PART 2 - PRODUCTS

2.1 CLOTHING AND EQUIPMENT

A. All clothing and equipment must conform to the OSHA and EPA requirements, as indicated in the previous Reference Standards Section. Generally, protective clothing is considered disposable, but respiratory equipment is reusable. The items to be furnished by the Contractor under different levels of required protection for their own personnel and subcontractor's personnel include, but are not limited to, the following:

1. Level D Protection:
   a. Safety Boots/shoes
   b. Safety Glasses
   c. Hard Hat and Optional Face Shield
   d. Gloves – as required by task
   e. Reflective Vest
   f. Noise Protection – as required by task

2. Modified Level D Protection:
   a. Safety Boots/shoes
   b. Safety Glasses
   c. Hard Hat and Optional Face Shield
   d. Gloves – as required by task
   e. Reflective Vest
   f. Noise Protection – as required by task
   g. Chemical protective overalls and long-sleeved jacket or Coveralls (Saran coated Tyvek)
   h. Gloves, disposable (Nitrile)
   i. Booties, chemical protective (disposable PVC)

3. Level C Protection:
   a. Full face piece or half-mask piece air-purifying respirator (MSA Ultra-twin or equal)
   b. Chemical protective overalls and long-sleeved jacket or Coveralls (Saran coated Tyvek)
   c. Gloves, inner (disposable surgical type)
   d. Gloves, outer (Neoprene, Nitrile, Viton or Butyl)
   e. Boots, chemical protective, steel toe and shank (Neoprene or Nitrile)
   f. Booties, chemical protective (disposable PVC)
   g. Hard Hat
   h. Face Shield (Optional)

4. Levels B and A represent increased levels of protection and are described in the Reference Standards.

PART 3 - EXECUTION

3.1 HEALTH AND SAFETY PLANNING AND IMPLEMENTATION

A. Prepare an H&SP that ensures the health and safety of all workers engaged in work at the site and the general public at all times when exposure to contaminated soils,

dust, contaminated groundwater, odors, or gases is possible. Implement the plan throughout the execution of the work.

B. The Contractor shall monitor the excavation using the equipment described in the Contractor's H&SP.

C. Contractor's workers who will be engaged in work at the site that might result in exposure to contaminated soil shall attend the health and safety coordination meeting and any follow-up supplemental briefings.

D. Provide adequate health and safety training for all personnel who may come in contact with or be exposed to contaminated soil during the work.

E. Provide personnel, including personnel for subcontractors, who are 40-hour OSHA trained with an 8-hour OSHA refresher course completed within the previous calendar year. These personnel and their training shall be provided at no additional cost to the Owner. The Contractor shall provide, at the Owner's request, certificates for each worker to demonstrate compliance with this requirement.

F. Provide 40-hour Asbestos Abatement Worker Training for all personnel who will be in direct contact with asbestos-impacted soil and ACM debris. These personnel and their training shall be provided at no additional cost to the Owner. The Contractor shall provide, at the Owner's request, certificates for each worker to demonstrate compliance with this requirement.

G. As necessary, provide personnel, including personnel for subcontractors, who are confined space entry trained to complete the Work specified herein and in other Sections. These personnel shall be current in all applicable and necessary refresher courses, as well. These personnel and their training shall be provided at no additional cost to the Owner. The Contractor shall provide, at the Owner's request, certificates for each worker to demonstrate compliance with this requirement.

H. Personnel who have not received training, and who are not equipped with the required protective clothing and equipment, shall not be permitted access to the site by the Contractor during the work that may result in exposure to contaminated soil or groundwater.

3.2 ACCIDENT REPORTING REQUIREMENTS

A. The Contractor must comply with all accident and/or incident reporting requirements, including the following:

1. Should any unforeseen safety-related factor, hazard, or condition become evident during the Work, the Contractor must immediately take prudent action to establish, maintain, and secure the site and working conditions. This shall be followed by immediate notice to the Owner.
2. If serious injury to a person or damage to property, environment, or natural resources results from an incident, the Contractor shall immediately report the incident to the Owner. The report shall be followed by a written document describing the incident, what hazards were created by it, and a detailed statement of what actions was taken to correct the problem. The Contractor will also include a description of why the actions taken were prudent.

3.3 DECONTAMINATION

A. Decontaminate all equipment and tools that have come in contact with soil containing ACM debris in accordance with the NTWP.

B. Provide on-site facilities for Contractor personnel to decontaminate their protective clothing or other equipment.

C. Properly store and dispose of contaminated personal protection equipment.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Health and Safety will not be measured but will be paid for as part of the Base Contract Price. The Base Contract Price shall include furnishing all material, mobilization, OSHA trained and certified labor, confined space trained and certified labor, equipment, tools, subcontractors and testing agencies associated with on-site monitoring programs, and incidentals necessary to complete the Work specified herein.

END OF SECTION

https://haleyaldrich.sharepoint.com/sites/NortheasternUniversity/Shared Documents/134206.New Arena/012 - New Arena-After SD/Specs_Drawings/Specifications/007319 - Env Health and Safety-Matthews-2024-0308_F.docx

APPENDIX F
Green Cleanups Best Management Practices (BMPs)

BEST MANAGEMENT PRACTICES (BMPs) CONSIDERED FOR GREENER CLEANUPS UNDER THE MCP AT 310 CMR 40.0858(4)(C)

Category	Best Management Practice	Core Element Addressed (at Site Level)					Remediation Technology		
		Energy	Air	Water	Materials and Waste	Land and Ecosystems	Subsurface Containment & Treatment Barriers	Excavation and Surface Restoration	Vapor Intrusion Mitigation
Site Characterization									
Materials	Steam-clean or use phosphate-free detergents or biodegradable cleaning products instead of organic solvents or acids to decontaminate sampling equipment			X	X	X	X	X	X
Materials	Maximize the reuse of existing wells for sampling, injections or extractions, where appropriate, and/or design wells for future reuse	X	X		X	X			X
Materials	Use dedicated materials (that is, reuse of sampling equipment and nonuse of disposable materials/equipment) when performing multiple rounds of sampling				X		X	X	X
Sampling and Analysis	Use on-site mobile lab or other field analysis (for example, portable gas chromatography/mass spectrometry for fuel-related compounds and VOCs) to minimize the need for offsite laboratory analysis and associated sample packing and shipping	X	X		X		X	X	X
Sampling and Analysis	Contract a laboratory that uses green practices and/or chemicals	X	X	X	X	X	X	X	X
Sampling and Analysis	Use local laboratory to minimize impacts from transportation	X	X				X	X	X
Remedial design, implementation, operation, and maintenance									
Materials	For the non-reactive component of permeable treatment/containment barriers, use locally derived materials (for example, sand/gravel)	X	X		X		X		
Materials	Choose geotextile fabric or drainage tubing composed of 100% recycled materials, rather than virgin materials, for lining, erosion control, and drainage on landfill covers				X			X	X
Materials	Use crushed concrete for biobarriers or capillary breaks instead of natural rock for landfill covers				X	X		X	
Materials	Use biodegradable seed matting constructed of recycled materials (for example, paper, saw dust, hay)				X	X		X	
Materials	Purchase materials in bulk quantities and packed in reusable/recyclable containers and drums to reduce packaging waste				X		X	X	X
Project Planning and Team Management	Use local staff (including subcontractors) when possible to minimize resource consumption	X	X		X		X	X	X
Soil Management and Site Development									
Materials	Use on-site/local materials, when possible (for example, wood waste for compost, rocks for drainage control)	X	X		X		X	X	X
Residual Solid and Liquid Waste	Minimize off-site disposal of solid waste by improving solids dewatering with a filter press or other technologies	X	X		X		X	X	X
Surface/Storm Water	Use a leachate collection system for a landfarm (along with a leachate treatment system) to fully preserve the quality of downgradient water bodies, soil, and groundwater			X		X		X	