Blackstone Environmental Solutions, LLC

Environmental Consulting and Licensed Site Professional Services

Erik Johnson
Bureau of Waste Site Cleanup
MassDEP Northeast Regional Office
150 Presidential Way
Woburn, MA 01801

December 5, 2023
Project #1843

RE: Immediate Response Action Status Report # 1 and Imminent Hazard Evaluation
Vacant Parcels
12 Cedar Road, 14 Cedar Road, and 14 Barnes Road
Salem, MA 01970
RTN 3-38273

Dear Mr. Johnson:

On behalf of JL Realty Trust, JMI Realty Trust, and Barnes Road Trust, Blackstone Environmental Solutions LLC is submitting the following Immediate Response Action (IRA) Status Report # 1 and Imminent Hazard Evaluation (IHE) for the vacant parcels of land located at 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road in Salem, Massachusetts. This report has been prepared in response to a Massachusetts Contingency Plan (MCP) "2-Hour" notification condition associated with the presence of polychlorinated biphenyls (PCBs) and total chromium within 12-inches of the ground surface at a location within 500 feet of a residential property, and at a concentration greater than 10 milligrams per kilogram (mg/kg) and 200 mg/kg, respectively.

Massachusetts Department of Environmental Protection (MassDEP) was notified of the "2-Hour" reporting conditions in August 2023 and verbally approved an expedited subsurface investigation program to address the potential Imminent Hazard condition to human health under Release Tracking Number 3-38273 for 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road. As presented herein, an IHE was prepared for the aforementioned properties to characterize the potential health risks for current potential trespassers associated with PCBs, total chromium, as well as other heavy metals and semi-volatile organic compounds detected in the surficial material. The conclusion from the IHE is provided below:

"A condition of No Imminent Hazard exists for human health, safety, and the environment exists for the portions of 12 Cedar Road, 14 Cedar Road and 14 Barnes Road in Salem, Massachusetts located along approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road"

The Site will continue to be assessed and monitored for potential Imminent Hazards. If you have any questions regarding this project, please feel free to contact the undersigned.

Sincerely,
Blackstone Environmental Solutions, LLC



Michael C. Bricher, LSP, P.G.
Principal

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Blackstone Environmental Solutions, LLC

Environmental Consulting and Licensed Site Professional Services

IMMEDIATE RESPONSE ACTION (IRA) STATUS REPORT # 1 AND IMMINENT HAZARD EVALUATION

Vacant Parcels
12 Cedar Road, 14 Cedar Road, and 14 Barnes Road
Salem, MA 01970

MassDEP RTN 3-38273

December 5, 2023

Prepared for:

JL Realty Trust, JMI Realty Trust, and Barnes Road Trust
381 Highland Avenue
Salem, MA 01970

Prepared by:

Blackstone Environmental Solutions, LLC
76 Bay View Drive
Shrewsbury, Massachusetts 01545

BES # 1843

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1.0 INTRODUCTION AND SUMMARY CONCLUSION

On behalf of JL Realty Trust, JMI Realty Trust, and Barnes Road Trust (i.e., the "Trusts") Blackstone Environmental Solutions LLC (BES) has prepared the following Immediate Response Action (IRA) Status Report # 1 and Imminent Hazard Evaluation (IHE) associated with the release of oil and/or hazardous material (OHM) reported under Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-38273 at portions of the vacant land located at 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road in Salem, Massachusetts. **After subsurface assessment, this report concludes there is No Imminent Hazard (IH) for the below-referenced conditions evaluated at portions of 12 Cedar Road, 14 Cedar Road and 14 Barnes Road located along approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road.** A detailed summary of the response action activities resulting in this conclusion are described herein

These properties are part of the larger Disposal Site associated with parent RTN 3-38210, and also include portions of the properties at 9 Cedar Road, 15 Cedar Road, 16 Cedar Road, and 16 Barnes Road (the "Site"). A Site Locus, Site Plan, Aerial Map MassDEP Phase I Site Assessment Map are included as Figures 1, 2, 3, and 4, respectively. Those areas identified as potentially hosting Imminent Hazard conditions were assessed.

A "Could Pose" Imminent Hazard reporting condition was determined to have existed on 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road, as a result of the reported presence of polychlorinated biphenyl (PCB) and total chromium impact in the top 12 inches of soil. The dataset used in the IH regulatory notification process included an assessment by Weston & Sampson of Reading MA on October 9, 2020. The Weston and Sampson Report identified dumped shredded automobile parts [automobile shredding residue (ASR)] within the investigation area, and attributed this material as both historic in nature, most likely from over fifty (50) years ago, and as the source of the hazardous materials in soil, including PCBs and heavy metals. A summary of these assessment activities is presented in the Weston & Sampson- Summary of Work Memorandum dated November 17, 2020, and is included in Appendix A.

This IRA Status Report details the assessment activities performed at the Site to determine the source, nature and extent of the release associated with the "could pose" Imminent Hazard reporting condition and to assure the continued absence of any critical exposure pathway (CEP) or a condition of substantial release migration (SRM) from occurring at the Site. Response actions covered by this report are from October 4 through November 30, 2023.

The parties currently assuming responsibility for conducting this IRA is the "Trusts", although another party, Prolerized New England Company, LLC (PNE) has been sent a Notice of Responsibility by MassDEP. Information required for an IRA Status Report and IHE, as

specified in 310 CMR 40.0425 and 40.026, is contained in this document as a whole. IRA activities at the Site are currently being conducted under the supervision of the Licensed Site Professional (LSP) of Record for the Site, Mr. Michael Bricher, LSP No. 3926.

This report and Bureau of Waste Site Cleanup (BWSC) Form 105 are submitted electronically via the Massachusetts Department of Environmental Protection's (MassDEP) eDEP online filing system. It is noted that the following reports and/or forms were previously provided to MassDEP for Site RTN 3-38273:

- Imminent Hazard Evaluation Plan- September 15, 2023;
- Release Notification Form (RNF), BWSC-103 – October 6, 2023;
- IRA Plan – October 6, 2023;
- Imminent Hazard Evaluation Results for 14/16 Barnes Road– October 18, 2023; and
- Imminent Hazard Evaluation Results Amendment for 14/16 Barnes Road– October 20, 2023.

As each of these submittals may contain pertinent information not necessarily reiterated in this document, each should be reviewed for content and are herein included in this report by reference.

2.0 DESCRIPTION IRA ACTIVITIES: OCTOBER 4 THROUGH NOVEMBER 30, 2023

Response actions conducted at the Site in response to the reportable release condition include, but are not limited to, the following;

- Preparation of an Imminent Hazard Evaluation Results-300 Foot Street Frontage at 14 and 16 Barnes Road;
- Access coordination attempts with Berman Properties LLC to the Cedar Road Easement;
- Shallow soil sampling at thirty (30) locations on the Cedar Road Easement, 12 Cedar Road, 14 Cedar Road, 16 Cedar Road, and 14 Barnes Road vacant properties;
- Perform asbestos assessment across the Site per request of the MassDEP Bureau of Air & Waste Division; and
- Multiple Site visits.

A summary of the response activities is described in the following sections.

2.1 Imminent Hazard Evaluation Results-330 Foot Street Frontage at 14 and 16 Barnes Road

On behalf of the Trusts, BES filed an IHE Results with MassDEP on October 18, 2023 for a portion of 14 and 16 Barnes Road. The IHE was performed to evaluate the risks associated the potential trespasser exposure pathway via dermal contact to soil at a portion of 14 Barnes Road and 16 Barnes Road. The laboratory soil sampling activities was performed at the aforementioned properties on September 27, 2023.

The IHE Results concluded that a condition of No Imminent Hazard exists for human health, safety, and the environment for portions of 14 Barnes Road and 16 Barnes Road in Salem, Massachusetts located along approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road. Also, it was noted that the IHE will be reevaluated if conditions are identified in the future which are materially different from those characterized to date.

An IHE Results Amendment was filed with MassDEP on October 20, 2023. Based on feedback received from MassDEP staff on the October 18, 2023 IHE Results submittal, BES filed the Amendment in order to provide more clarity on the specific areas where the risk assessment conclusions were made (i.e., approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road).

2.2 Cedar Road Easement Access Status

In an attempt to perform environmental soil sampling activities at the vacant parcels located at 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road, BES and the Trusts' legal representation reached out to representatives of Berman Properties LLC (Berman) to secure access to the Cedar Road Easement on several occasions during the period of mid-September, 2023 through November 7, 2023. The Cedar Road Easement was viewed to be the safest route to access these vacant parcels because it would not require crossing a large area of wetlands, swamps, dense vegetative growth or steep/rocky terrain. Due to the fact that the Berman redevelopment project at Highland Avenue and Cedar Road (i.e., 355-373 Highland Avenue) is an asbestos cleanup site, a thorough decontamination written program was prepared by BES and approved by the MassDEP Bureau of Air and Waste Division.

Ultimately, property access was denied to the Cedar Road Easement from Highland Avenue by Berman representatives for the planned November 13 and 14, 2023 surficial soil sampling activities due to business interference concerns during the on-going construction activities. It is BES and the Trusts informed expectation that an access agreement can be secured to the Cedar Road Easement via Highland Avenue with Berman representatives upon completion of the site-related construction activities.

Given the fact that access was denied to the Cedar Road Easement via Highland Avenue, BES

performed a job safety analysis on November 9, 2023 for accessing the Cedar Road properties via Barnes Road. Although not ideal for carrying sampling equipment through 300+ feet of thick wooded vegetation with the downward sloped/rocky terrain, the safety risk was viewed to be manageable during this time of year (i.e., better visibility with no leaves on trees, no concerns of poison ivy/oak or flies/bugs/insects) while having other field staff on Site working as a collective team. Accordingly, the November 13 and 14, 2023 surficial soil sampling plan was modified in order to access the IH investigation areas via Barnes Road.

2.3 Surficial Soil Sampling Activities-November 13 and 14, 2023

Surficial soil sampling activities were completed by BES as part of the IRA assessment program to determine the horizontal extent of PCB and heavy metal contamination at the Site in conformance with the MCP and federal Toxic Substance Control Act (TSCA) requirements. The comprehensive soil sampling program was performed within and around five sampling areas (i.e., Cedar Road Easement, 12 Cedar Road, 14 Cedar Road, 16 Cedar Road, and 14 Barnes Road). In addition, the data collected from this surficial soil sampling program will be used to aid in developing a supplemental assessment program to determine the full extent of contaminants of concern (COC) impacted soil at the Site, and the implementation of a groundwater assessment program.

During assessment activities performed at the Site, standard protocols/procedures were performed in general conformance with BES SOPs, general industry standards and appropriate MassDEP and/or EPA Policies and/or Guidance. All soil samples collected for laboratory analyses were transported to New England Testing Laboratories of West Warwick, RI under standard Chain of Custody documentation procedures. The soil samples were analyzed for the following parameters:

- PCBs by EPA Method 8082A;
- MCP 14 Metals; and
- SVOCs via EPA Method 8270 (select samples only).

Surficial soil sampling laboratory results are summarized on Tables 1A and 1B. Soil laboratory analytical reports are provided in Appendix B.

A total of thirty surficial soil samples (identified as SS-1 through SS-30) were collected across the aforementioned sampling areas on November 13 and 14, 2023. Refer to Figure 2-Site Plan for a depiction of the surficial soil sampling locations. Labelled wood stakes were installed at each sample location and will be surveyed for elevation and location at a later date.

All soil samples were collected with a hand auger from a depth of 0 to 1 foot below grade. The soil samples comprised mostly of organics with some silts, sands, and gravel. Soil samples were field screened for total volatile organic compounds (TVOCs) with a photoionization detector (PID) equipped with a 10.6 eV lamp and calibrated to 100 ppmv isobutylene utilizing

the MassDEP approved "Jar Headspace Analytical Screening Procedure". The PID screening reading results for all soil samples were non-detect (0.0 parts per million (ppm).

During the collection process, a visual surface inspection for ASR material (i.e., metal, rubber, plastic, foam, glass, wire) was performed within each sampling area. Refer to Tables 1A and 1B for a summary of where ASR material was visually observed within the investigation areas.

A summary of the laboratory analytical results for the surficial soil samples collected from the five sampling areas on November 13 and 14, 2023 indicated the presence of multiple target analytes at concentrations exceeding their respective MCP reportable concentrations. A summary of the soil sample analytical results is presented below**, none of which exceed** MassDEP risk levels for IH (further discussed in Section 2.4).

Cedar Road Easement

Surficial soil samples SS-1 and SS-7 were collected from within the Cedar Road Easement. A summary of the target analytes that exhibited concentrations in excess of the Reporting Category RCS-1 threshold value along with the highest reported concentrations is noted below:

- MCP 14 Metals: lead-1,020 micrograms per kilogram (mg/kg) and zinc- 6,170 mg/kg; and
- Total PCBs: 10.6 mg/kg

12 Cedar Road

Surficial soil samples SS-2, SS-3, SS-4, SS-5, and SS-6 were collected from within the 12 Cedar Road vacant property. A summary of the target analytes that exhibited concentrations in excess of the Reporting Category RCS-1 threshold value along with the highest reported concentrations is noted below:

- MCP 14 Metals: lead-688 mg/kg and zinc- 2,470 mg/kg; and
- Total PCBs: 10.8 mg/kg

14 Cedar Road

Surficial soil samples SS-8, SS-9, SS-10, SS-11, SS-12, SS-13, SS-14, SS-15, and SS-16 were collected from within the 14 Cedar Road vacant property. A summary of the target analytes that exhibited concentrations in excess of the Reporting Category RCS-1 threshold value along with the highest reported concentrations is noted below:

- MCP 14 Metals: lead-2,080 mg/kg, arsenic-26.8 mg/kg, barium-1,250 mg/kg, cadmium- 33.2 mg/kg, total chromium- 169 mg/kg, and zinc- 11,500 mg/kg; and
- Total PCBs: 8.56 mg/kg

16 Cedar Road

Surficial soil samples SS-26, SS-27, SS-28, SS-29, and SS-30 were collected from within the 16 Cedar Road vacant property. A summary of the target analytes that exhibited concentrations in excess of the Reporting Category RCS-1 threshold value along with the highest reported concentrations is noted below:

- MCP 14 Metals: lead-3,670 mg/kg, arsenic-35.3 mg/kg, beryllium-1,370 mg/kg, nickel- 3,230 mg/kg, total chromium- 142 mg/kg, antimony- 231 mg/kg, and zinc-17,100 mg/kg; and
- Total PCBs: 26.2 mg/kg

14 Barnes Road (north/central area)

Surficial soil samples SS-17, SS-18, SS-19, SS-20, SS-21, SS-22, SS-23, SS-24, and SS-25 were collected from within the 14 Barnes Road vacant property (north/central area). A summary of the target analytes that exhibited concentrations in excess of the Reporting Category RCS-1 threshold value along with the highest reported concentrations is noted below:

- MCP 14 Metals: lead-2,060 mg/kg, arsenic-35.3 mg/kg, antimony- 27.5 mg/kg, and zinc- 7,110 mg/kg; and
- Total PCBs: 5.14 mg/kg

Overall, the highest concentrations of PCBs, lead, and total chromium detected in surficial soils across the investigation area are in the same general range with previously reported results with a few exceptions.

- The highest reported PCB concentration from prior investigations was 118.3 mg/kg, and was collected from the 14 Barnes Road property. The highest reported PCB concentration in the nine soil samples collected from 14 Barnes Road during this investigation was 5.14 mg/kg; and
- The highest reported total chromium concentration from prior investigations was 258 mg/kg, and was collected along the property boundary of 14 and 16 Cedar Road. The highest reported total chromium concentration in the fourteen soil samples collected from 14 and 16 Cedar Road during this investigation was 169 mg/kg.

As a conservative measure, the maximum concentrations of PCBs (118.3 mg/kg) and

chromium (258 mg/kg) in soil samples collected in 2020 at the Site were factored into the IHE.

Lastly, it should be noted that there was no evidence to suggest that abutters or other unauthorized persons have accessed the Site during this surficial soil investigation.

2.4 Imminent Hazard Evaluation Results-November 13 and 14, 2023

Pursuant to 310 CMR 40.0426, an IHE shall be performed as part of an IRA at sites where a release or threat of release could pose an IH to human health, safety, public welfare, or the environment, as described in 310 CMR 40.0321 and 40.0950. An IHE was performed to evaluate the risks associated the potential trespasser exposure pathway via dermal contact associated with PCBs, total chromium, as well as other heavy metals and semi-volatile organic compounds detected in the surficial material at 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road. The IHE was performed by O'Reilly Talbot & Okun Associates of Westborough, MA (OTO), and is presented in Appendix C. The conclusion from the IHE Report is provided below:

"A condition of No Imminent Hazard exists for human health, safety, and the environment exists for the portions of 12 Cedar Road, 14 Cedar Road and 14 Barnes Road in Salem, Massachusetts located along approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road."

The Site will continue to be assessed and monitored for potential Imminent Hazards.

2.5 Asbestos Assessment

On behalf of the Trusts, Axiom Partners, Inc., of Lynfield, MA (AXIOM) performed bulk sampling of suspect asbestos-containing materials (ACM) and collected surficial soil samples adjacent to locations of suspect ACM on November 13 and 14, 2023. The suspect ACM and soil samples were collected by David Rooney of AXIOM, a Massachusetts-licensed Asbestos Inspector (License #AI 061851). The asbestos assessment areas included portions of 14 Barnes Road, 16 Barnes Road, 12 Cedar Road, 14 Cedar Road, and 16 Cedar Road. An Asbestos Testing Summary Report will be prepared by Axiom and filed with MassDEP under a separate cover, anticipated for submittal on or before December 15, 2023. There was no evidence of friable asbestos located at or on the surface of the areas inspected.

3.0 MANAGEMENT OF IRA GENERATED WASTE

No remediation waste was generated for this IRA during the monitoring period.

4.0 SIGNIFICANT NEW SITE INFORMATION OR DATA

On October 25, 2023, MassDEP issued a Notice of Responsibility to Prolerized New England, LLC for the same RTNs issued to the Trusts (i.e., 3-38273 & 3-38210). Specifically, the NOR states the following:

"12 Cedar Road, 14 Cedar Road, and 14 Barnes Road, Salem, Massachusetts (collectively, the Site) were the location of the disposal of automotive shredder residue (ASR). MassDEP files contain information indicating that ASR, dumped at the Site in or about the 1970s, was from PNC. Through environmental testing, ASR has been identified in several areas across the Site at ground level and to depths of up to 35 feet below grade."

Legal representatives from the Trusts and PNE are currently in discussions to secure a cost allocation agreement for completing the required environmental response actions at the Site in accordance with MassDEP/EPA regulations.

5.0 SUMMARY AND CONCLUSIONS

This IRA is being conducted at the Site as a result of a "2-Hour" notification condition associated with the presence of PCBs and total chromium within 12-inches of the ground surface at a location within 500 feet of a residential property, and at a concentrations greater than 10 mg/kg and 200 mg/kg, respectively. The "2-Hour" notification condition was based on surficial soil laboratory analytical results collected by others in 2020 at the vacant parcels of land located at 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road. Since the initial IRA notification was made for the Site under RTN 3-38273 on August 7, 2023, BES and the Trusts legal representatives have been coordinating and regularly communicating with MassDEP staff in the performance of the critical and timely IRA assessment efforts described herein.

Based on the assessment activities performed to date at the Site, it is the opinion of BES that the source of the PCBs and heavy metals, including chromium and lead detected in the shallow soil samples is attributed to the historic fifty (50) year old dumping/landfilling of ASR material observed throughout the Disposal Site. This opinion is supported by the fact elevated concentrations of PCBs and heavy metals in surficial soil were observed in the immediate vicinity of the ASR material. The ASR material consisted of metal, rubber, plastic, foam, glass, and wire. Records obtained by MassDEP indicate that the ASR material was dumped at the Site in or about the 1970's by PNC.

Access to the ASR material and shallow PCB/heavy metal-impacted soils at the Disposal Site is limited by a combination of factors, including fencing, wetlands, swamps, dense vegetative growth, and steep/rocky terrain. No evidence of any recent land disturbance/trespassing to the Disposal Site was observed.

An IHE was performed to evaluate the risks associated the potential trespasser exposure pathway via dermal contact associated with PCBs, total chromium, as well as other heavy metals and semi-volatile organic compounds that were detected in the surficial material at 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road. The conclusion from the IHE is that there is no Imminent Hazard for human health, safety, and the environment exists for the portions of 12 Cedar Road, 14 Cedar Road and 14 Barnes Road in Salem, Massachusetts located along approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road.

The Site will continue to be assessed and monitored for potential Imminent Hazards. Future response actions will be performed in accordance with the October 6, 2023 IRA Plan and MassDEP approvals, as needed.

6.0 ANTICIPATED SCHEDULE OF IRA ACTIVITIES

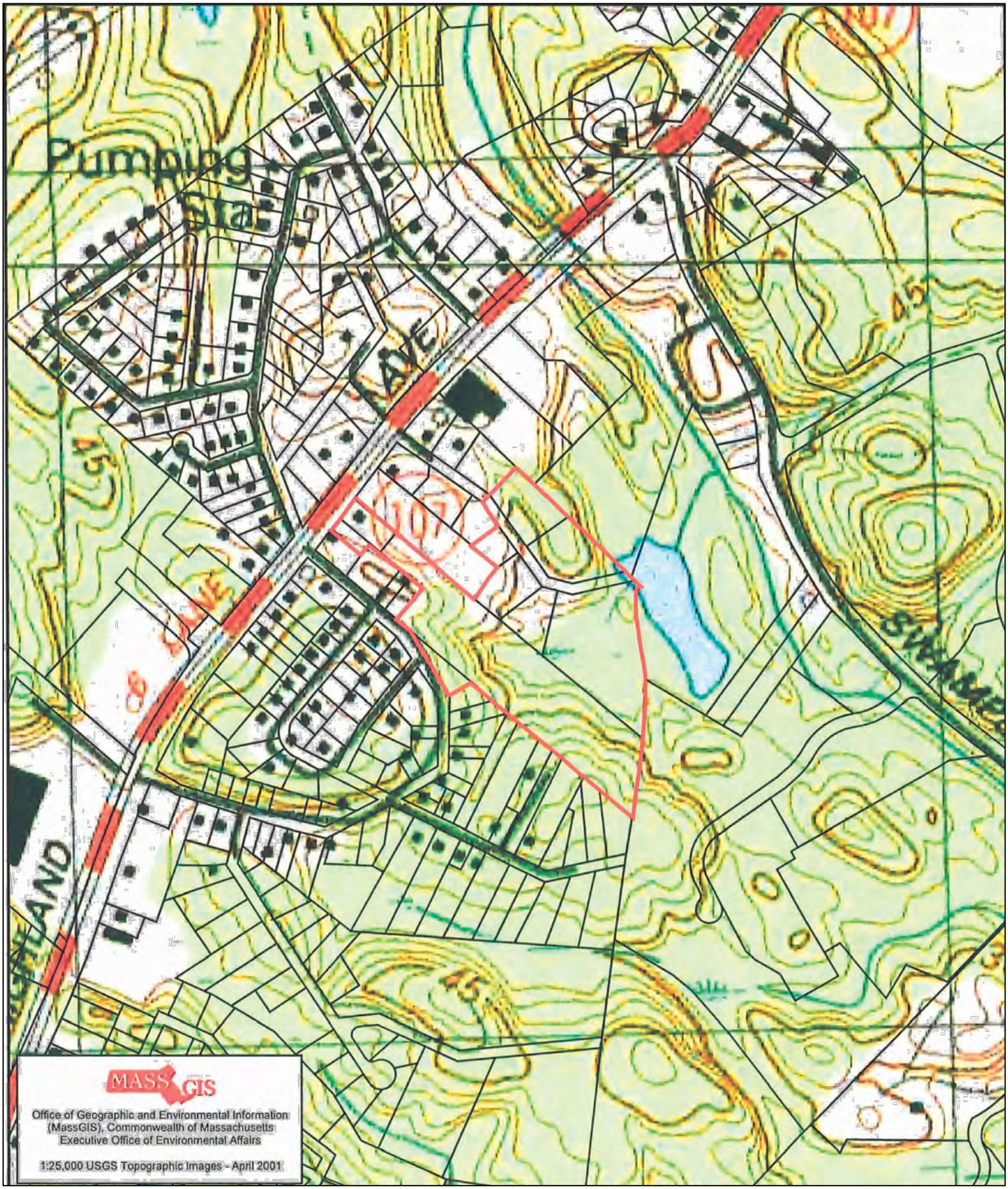
Additional assessment is planned to be conducted to further delineate PCBs, metals and other contaminants identified at the Disposal Site, and to continue to evaluate for IH, CEP, and SRM conditions.

As previously noted, the Trusts and PNE are currently in discussions regarding the proposed next steps for advancing the Site through the MCP process. In addition, both parties will need to reach a cost allocation agreement before additional environmental response actions are performed at the Site. The next IRA submittal will be filed with the MassDEP on or before June 5, 2024.

7.0 PUBLIC INVOLVEMENT

In accordance with public involvement activities requested by the City of Salem under 310 CMR 40.1403(9), notification of the submittal of this IRA Status Report has been made to the Mayor's Office and the Board of Health. An electronic copy of this report has been provided to the City of Salem Solicitor, Elizabeth Rennard for uploading onto the City's website for the local community to review rather than navigating through the MassDEP Searchable Sites database.

FIGURES



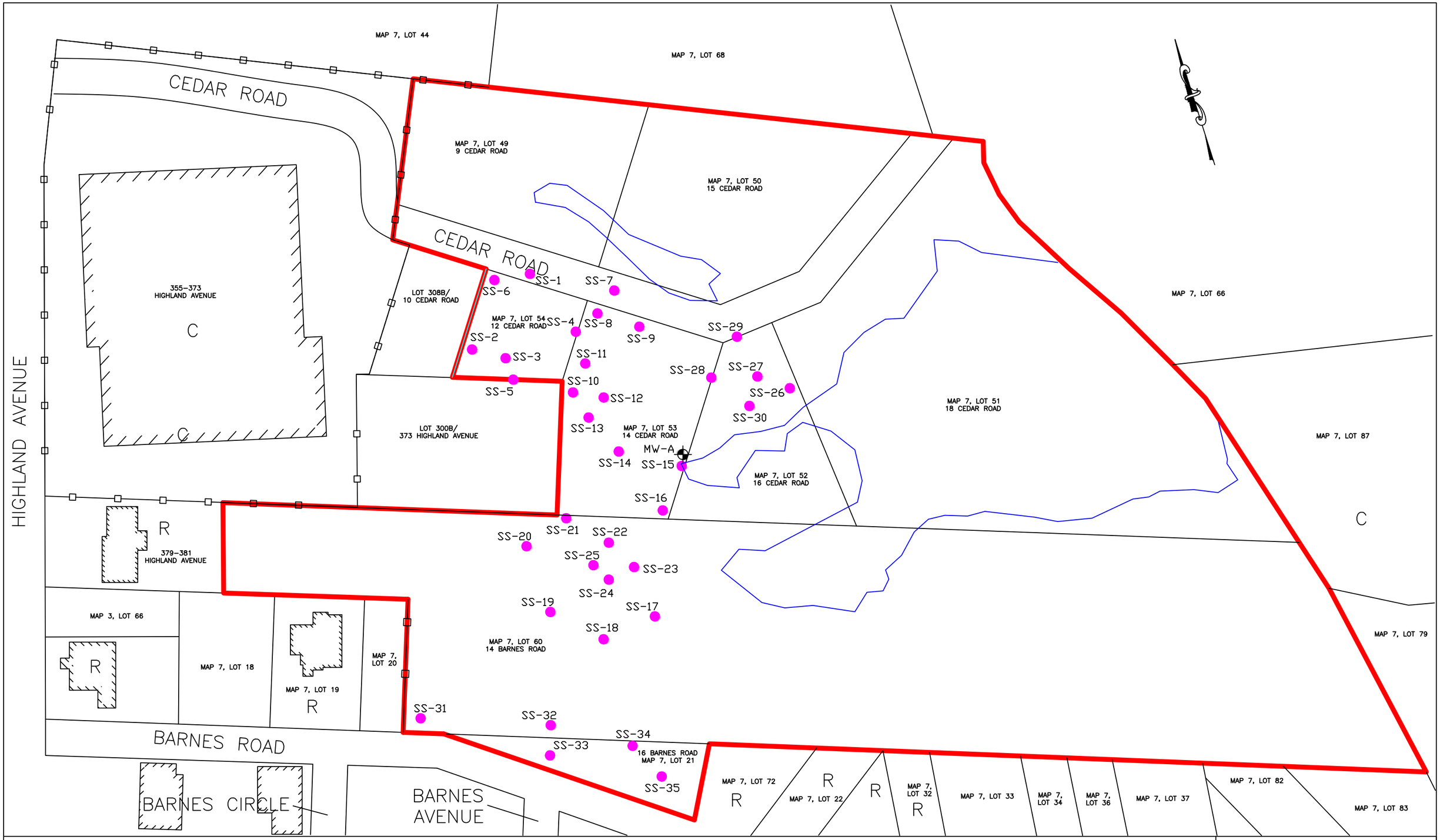
SOURCE: SALEM AND LYNN, MA USGS QUADRANGLE TOPOGRAPHIC MAPS

SITE LOCUS

BLACKSTONE ENVIRONMENTAL SOLUTIONS, LLC.
76 BAY VIEW DRIVE
SHREWSBURY, MASSACHUSETTS 01545
TEL. (508) 612-4720

SCALE: NTS
DATE: 09/06/2023
DRAWN: KGP
PROJECT: 1843
FIGURE: 1

LOCATION
MULTIPLE PARCELS
HIGHLAND AVENUE, BARNES ROAD, AND CEDAR ROAD
SALEM, MASSACHUSETTS



LEGEND

- : SUBJECT PARCELS BOUNDARY
- : SURFICIAL SOIL SAMPLE
- C : COMMERCIAL
- R : RESIDENTIAL
- : WETLAND BOUNDARY
- : SECURITY FENCE
- : EXISTING MONITORING WELL

GRAPHIC SCALE (APPROXIMATE)

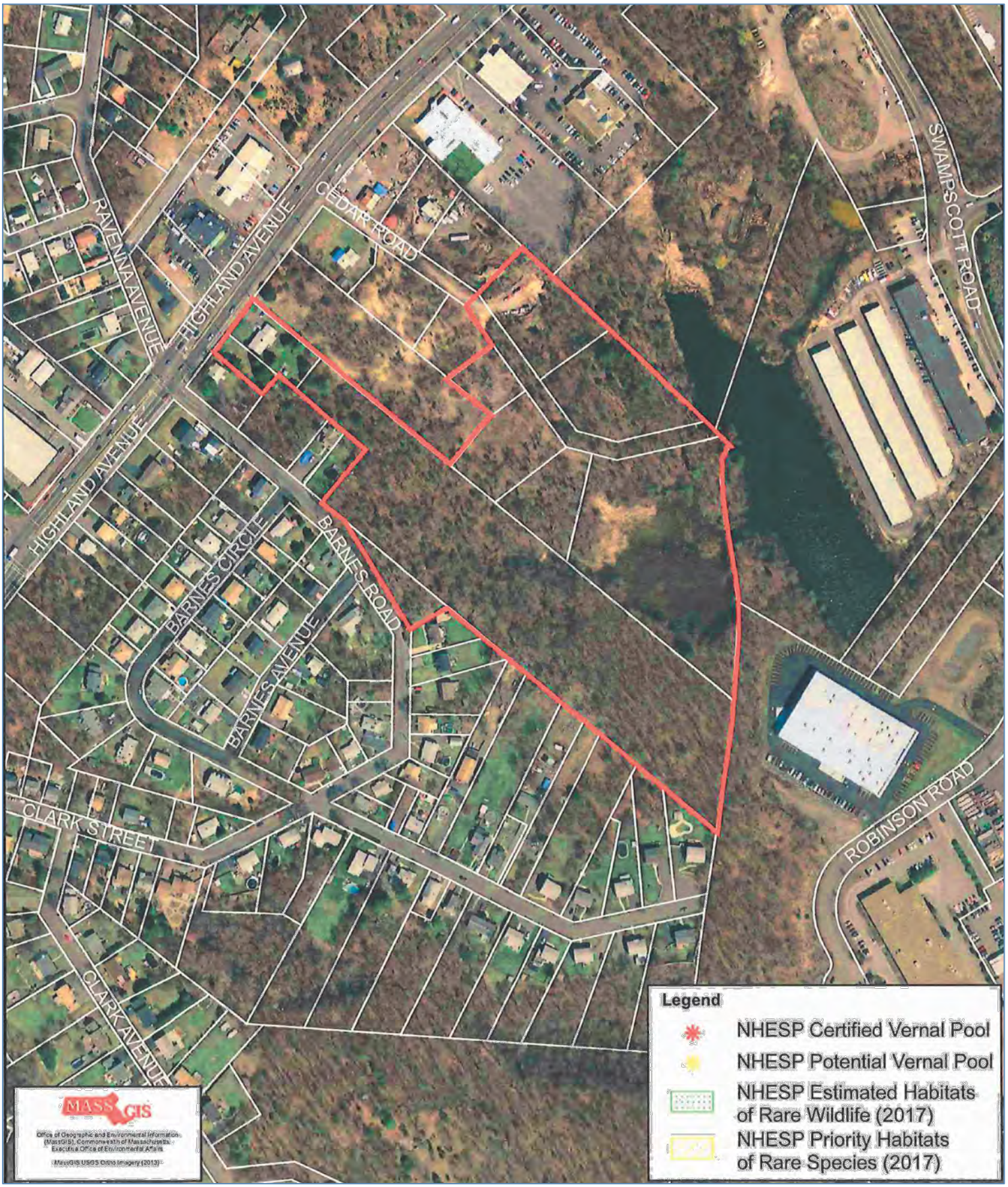
0 25 50

1 inch = 50ft

SITE PLAN

BLACKSTONE ENVIRONMENTAL SOLUTIONS, LLC.
76 BAY VIEW DRIVE
SHREWSBURY, MASSACHUSETTS 01545
TEL. (508) 615-4788

SCALE: 1" = 50'	LOCATION: MULTIPLE PARCELS HIGHLAND AVENUE, BARNES ROAD, AND CEDAR ROAD SALEM, MASSACHUSETTS
DATE: 12/4/2023	
DRAWN: KGP	
PROJECT: 1843	
FIGURE: 2	



SOURCE: SALEM AND LYNN, MA USGS QUADRANGLE TOPOGRAPHIC MAPS

AERIAL PLAN

BLACKSTONE ENVIRONMENTAL SOLUTIONS, LLC.
76 BAY VIEW DRIVE
SHREWSBURY, MASSACHUSETTS 01545
TEL. (508) 612-4788

SCALE: NTS
DATE: 09/06/2023
DRAWN: KGP
PROJECT: 1843
FIGURE: 3

LOCATION
MULTIPLE PARCELS
HIGHLAND AVENUE, BARNES ROAD, AND CEDAR ROAD
SALEM, MASSACHUSETTS

MassDEP - Bureau of Waste Site Cleanup

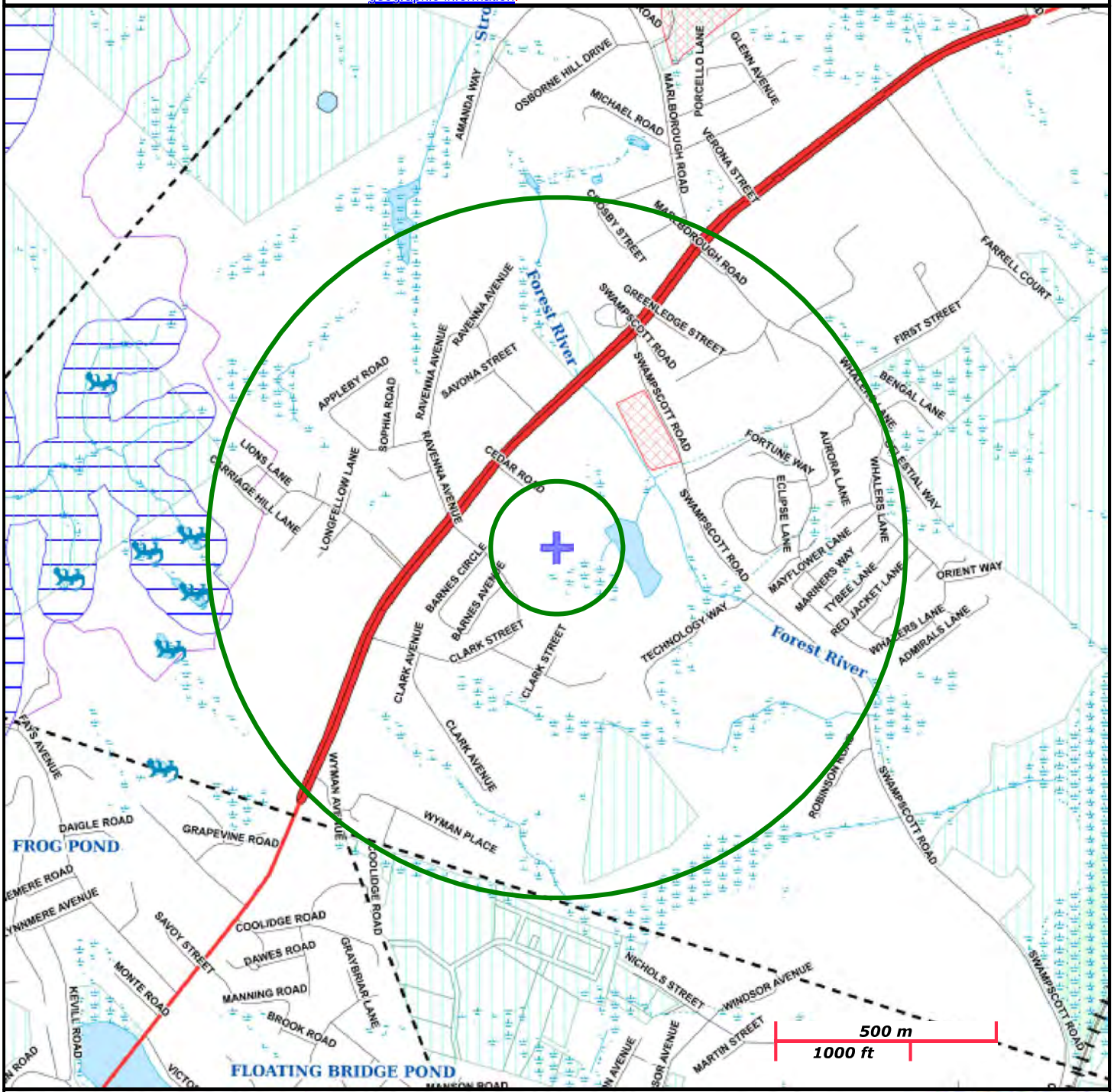
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
FIGURE 4
14 CEDAR ROAD SALEM, MA

NAD83 UTM Meters:
4706727mN , 341563mE (Zone: 19)
October 3, 2023

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.

TABLES

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-1/0-1'** 11/14/2023 Yes 105		**SS-2/0-1'** 11/14/2023 No 109		**SS-3/0-1'** 11/14/2023 Yes 108		**SS-4/0-1'** 11/14/2023 Yes 107	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	77	ND	70	ND	83	ND	103
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	77	ND	70	ND	83	ND	103
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	77	ND	70	ND	83	ND	103
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	77	ND	70	ND	83	ND	103
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	77	ND	70	ND	83	ND	103
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**5830**	385	ND	70	ND	83	**8830**	514
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**4800**	385	ND	70	ND	83	**1990**	103
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	385	ND	70	ND	83	ND	103
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	385	ND	70	ND	83	ND	103
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**10600**	385	ND	70	ND	83	**10800**	514

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-5/0-1'** 11/14/2023 Yes 107		**SS-6/0-1'** 11/14/2023 No 109		**SS-7/0-1'** 11/14/2023 No 97		**SS-8/0-1'** 11/14/2023 No 99	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**1070**	72	ND	77	ND	74	ND	75
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	72	ND	77	ND	74	ND	75
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**1070**	72	ND	77	ND	74	ND	75

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

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16 Cedar Road =
Cedar Road Easement =

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-9/0-1'** 11/14/2023 No 95		**SS-10/0-1'** 11/13/2023 Yes 108		**SS-11/0-1'** 11/13/2023 Yes 106		**SS-12/0-1'** 11/13/2023 Yes 108	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	86	ND	83	ND	83
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	86	ND	83	ND	83
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	86	ND	83	ND	83
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	86	ND	83	ND	83
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	86	ND	83	ND	83
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	264	86	ND	83	**5290**	413
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	302	86	ND	83	**3260**	413
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	86	ND	83	ND	83
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	86	ND	83	ND	83
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	567	86	ND	83	**8560**	413

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

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Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-13/0-1'** 11/13/2023 Yes 106		**SS-14/0-1'** 11/13/2023 Yes 106		**SS-15/0-1'** 11/13/2023 Yes 103		**SS-16/0-1'** 11/13/2023 No 105	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	90	ND	84	ND	71	ND	71
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	90	ND	84	ND	71	ND	71
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	90	ND	84	ND	71	ND	71
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	90	ND	84	ND	71	ND	71
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	90	ND	84	ND	71	ND	71
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**1310**	90	**3590**	419	228	71	139	71
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**1350**	90	**1250**	84	279	71	198	71
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	90	ND	84	ND	71	ND	71
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	90	ND	84	ND	71	ND	71
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**2660**	90	**4840**	84	507	71	337	71

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

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Cedar Road Easement =

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-17/0-1'** 11/13/2023 No 105		**SS-18/0-1'** 11/13/2023 Yes 114		**SS-19/0-1'** 11/13/2023 No 114		**SS-20/0-1'** 11/13/2023 Yes 115	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	80	ND	71	ND	84
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	80	ND	71	ND	84
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	80	ND	71	ND	84
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	80	ND	71	ND	84
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	80	ND	71	ND	84
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	648	80	ND	71	**1010**	84
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	79	73	430	80	ND	71	830	84
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	80	ND	71	ND	84
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	80	ND	71	ND	84
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	79	73	**1080**	80	ND	71	**1840**	84

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

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Cedar Road Easement =

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-21/0-1'** 11/13/2023 No 109		**SS-22/0-1'** 11/13/2023 Yes 110		**SS-23/0-1'** 11/13/2023 No 110		**SS-24/0-1'** 11/13/2023 Yes 111	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	73	ND	86	ND	165
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	73	ND	86	ND	165
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	73	ND	86	ND	165
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	73	ND	86	ND	165
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	73	ND	86	ND	165
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	123	73	ND	86	**3010**	165
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	148	73	ND	86	**2130**	165
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	73	ND	86	ND	165
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	ND	73	ND	86	ND	165
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	73	270	73	ND	86	**5140**	165

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

14 Barnes Road =
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Cedar Road Easement =

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-25/0-1'** 11/13/2023 No 110		**SS-26/0-1'** 11/14/2023 Yes 88		**SS-27/0-1'** 11/14/2023 Yes 89		**SS-28/0-1'** 11/14/2023 Yes 93	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	ND	80	ND	1670	ND	84
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	ND	80	ND	1670	ND	84
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	ND	80	ND	1670	ND	84
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	ND	80	ND	1670	ND	84
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	ND	80	ND	1670	ND	84
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	926	80	**15200**	1670	956	84
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	810	80	**11000**	1670	**1300**	84
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	ND	80	ND	1670	ND	84
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	ND	80	ND	1670	ND	84
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	75	**1740**	80	**26200**	1670	**2260**	84

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

14 Barnes Road =
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Cedar Road Easement =

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-29/0-1'** 11/14/2023 Yes 89		**SS-30/0-1'** 11/14/2023 No 88		**SS-31/0-1'** 9/27/2023 No 138		**SS-32/0-1'** 9/27/2023 No 142	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	81	ND	75	ND	86	ND	82
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	81	ND	75	ND	86	ND	82
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	81	ND	75	ND	86	ND	82
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	81	ND	75	ND	86	ND	82
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	81	ND	75	ND	86	ND	82
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**1120**	81	249	75	ND	86	ND	82
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**786**	81	282	75	ND	86	ND	82
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	81	ND	75	ND	86	ND	82
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	81	ND	75	ND	86	ND	82
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	**1900**	81	531	75	ND	86	ND	82

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

14 Barnes Road =
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Cedar Road Easement =

Table 1A
Summary of Surficial Soil Sample Analytical Results-PCBs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual area presence of ASR Approximate Surface Elevation (ft)										**SS-33/0-1'** 9/27/2023 No 142		**SS-34/0-1'** 9/27/2023 No 138		**SS-35/0-1'** 9/27/2023 No 138	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Aroclor-1016	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1221	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1232	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1242	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1248	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1254	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1260	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1262	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
Aroclor-1268	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78
PCBs (Total)	1000	1000	1000	4000	4000	4000	4000	100000	ug/kg	ND	79	ND	77	ND	78

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
UCL- MassDEP Upper Concentration Limit
Bold/Highlighted values exceed MassDEP/EPA Unrestictive Use
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available

14 Barnes Road =
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Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										**SS-1/0-1'** 11/14/2023 Yes 105		**SS-2/0-1'** 11/14/2023 No 109		**SS-3/0-1'** 11/14/2023 Yes 108		**SS-4/0-1'** 11/14/2023 Yes 107	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	1.44	0.93	ND	0.81	ND	1	ND	1.27
Arsenic	20	20	20	20	20	50	50	500	mg/kg	13.9	1.41	2.81	1.23	5.78	1.51	7.12	1.92
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	553	0.46	14.1	0.41	24.5	0.5	197	0.63
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	0.97	0.46	0.7	0.41	0.55	0.5	ND	0.63
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	20.6	0.7	1.01	0.62	ND	0.76	6.29	0.96
Chromium	100	100	100	200	200	200	200	2000	mg/kg	57.2	0.7	7.88	0.62	13.2	0.76	41.6	0.96
Lead	200	200	200	600	600	600	600	6000	mg/kg	**1020**	0.7	40.2	0.62	54.8	0.76	**688**	0.96
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	136	0.7	6.52	0.62	18.2	0.76	75	0.96
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.41	ND	1.23	ND	1.51	ND	1.92
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.41	ND	1.23	ND	1.51	ND	1.92
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	35.8	0.46	19.2	0.41	14.9	0.5	20.1	0.63
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	**6170**	2.8	59.7	2.5	90.6	3	**2470**	3.8
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.46	ND	0.41	ND	0.5	ND	0.63
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	1.48	ND	0.149	0.395	0.176	0.298	0.21
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg								
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg								
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg								
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg								
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg								
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg								
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg								
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg								
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg								
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg								
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg								
2,6-Dinitrotoluene	100000								ug/kg								
2-Chloronaphthalene	1000000								ug/kg								
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg								
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg								
Nitrobenzene	500000								ug/kg								
2-Methylphenol	500000								ug/kg								
2-Nitroaniline									ug/kg								
2-Nitrophenol	100000								ug/kg								
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg								
3-Nitroaniline									ug/kg								
4,6-Dinitro-2-methylphenol	50000								ug/kg								
4-Bromophenyl phenyl ether	100000								ug/kg								
4-Chloro-3-methylphenol	1000000								ug/kg								
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg								
4-Chlorophenyl phenyl ether	1000000								ug/kg								
4-Nitroaniline									ug/kg								
4-Nitrophenol	100000								ug/kg								
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg								
Aniline	1000000								ug/kg								
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg								
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg								
Benzoic acid	1000000								ug/kg								
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg								
Bis(2-chloroethoxy)methane	500000								ug/kg								
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg								
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg								
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg								
Butyl benzyl phthalate	100000								ug/kg								
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg								
Di-n-octyl phthalate	1000000								ug/kg								
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg								
Dibenzofuran	100000								ug/kg								
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg								
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg								
Di-n-butyl phthalate	50000								ug/kg								
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg								
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg								
Hexachlorocyclopentadiene	50000								ug/kg								
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg								
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Isophorone	100000								ug/kg								
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg								
N-Nitrosodimethylamine	50000								ug/kg								
N-Nitrosodi-n-propylamine	50000								ug/kg								
N-Nitrosodiphenylamine	100000								ug/kg								
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg								
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg								
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
m&p-Cresol	500000								ug/kg								
Pyridine	500000								ug/kg								
Azobenzene									ug/kg								
Total Dichlorobenzene	700								ug/kg								

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available
14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										**SS-5/0-1'** 11/14/2023 Yes 107		**SS-6/0-1'** 11/14/2023 No 109		**SS-7/0-1'** 11/14/2023 No 97		**SS-8/0-1'** 11/14/2023 No 99	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	0.84	ND	0.86	ND	0.79	ND	0.91
Arsenic	20	20	20	20	20	50	50	500	mg/kg	5.33	1.28	7.69	1.31	3.98	1.2	3.45	1.38
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	133	0.42	35.8	0.43	81.3	0.4	52.4	0.45
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	0.53	0.42	1.14	0.43	1.16	0.4	1.52	0.45
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	4.93	0.64	0.82	0.65	1.8	0.6	1.18	0.69
Chromium	100	100	100	200	200	200	200	2000	mg/kg	54.6	0.64	12.7	0.65	10.2	0.6	4.93	0.69
Lead	200	200	200	600	600	600	600	6000	mg/kg	**299**	0.64	54.2	0.65	108	0.6	29.5	0.69
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	94.2	0.64	12.3	0.65	17.1	0.6	7.89	0.69
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.28	ND	1.31	ND	1.2	ND	1.38
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.28	ND	1.31	ND	1.2	ND	1.38
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	15.5	0.42	31.3	0.43	42.4	0.4	62.9	0.45
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	**1120**	2.6	169	2.6	248	2.4	158	2.8
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.42	ND	0.43	ND	0.4	ND	0.45
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	1.51	ND	0.159	ND	0.145	ND	0.156
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg	ND	291	ND	154	ND	147		
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg	ND	291	ND	154	ND	147		
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg	ND	291	ND	154	ND	147		
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg	ND	739	ND	392	ND	373		
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg	ND	739	ND	392	ND	373		
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg	ND	291	ND	154	ND	147		
2,6-Dinitrotoluene	100000								ug/kg	ND	291	ND	154	ND	147		
2-Chloronaphthalene	1000000								ug/kg	ND	291	ND	154	ND	147		
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg	ND	291	ND	154	ND	147		
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg	ND	291	ND	154	ND	147		
Nitrobenzene	500000								ug/kg	ND	291	ND	154	ND	147		
2-Methylphenol	500000								ug/kg	ND	291	ND	154	ND	147		
2-Nitroaniline									ug/kg	ND	291	ND	154	ND	147		
2-Nitrophenol	100000								ug/kg	ND	739	ND	392	ND	373		
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg	ND	739	ND	392	ND	373		
3-Nitroaniline									ug/kg	ND	291	ND	154	ND	147		
4,6-Dinitro-2-methylphenol	50000								ug/kg	ND	739	ND	392	ND	373		
4-Bromophenyl phenyl ether	100000								ug/kg	ND	291	ND	154	ND	147		
4-Chloro-3-methylphenol	1000000								ug/kg	ND	291	ND	154	ND	147		
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg	ND	291	ND	154	ND	147		
4-Chlorophenyl phenyl ether	1000000								ug/kg	ND	291	ND	154	ND	147		
4-Nitroaniline									ug/kg	ND	291	ND	154	ND	147		
4-Nitrophenol	100000								ug/kg	ND	739	ND	392	ND	373		
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
Aniline	1000000								ug/kg	ND	291	ND	154	ND	147		
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	381	291	ND	154	ND	147		
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg	1640	291	521	154	ND	147		
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg	1440	291	481	154	ND	147		
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg	1780	291	651	154	ND	147		
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	737	291	412	154	ND	147		
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg	757	291	256	154	ND	147		
Benzoic acid	1000000								ug/kg	ND	2240	ND	1190	ND	1130		
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg	ND	67	ND	36	ND	34		
Bis(2-chloroethoxy)methane	500000								ug/kg	ND	291	ND	154	ND	147		
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg	ND	291	ND	154	ND	147		
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg	25800	1790	ND	475	ND	452		
Butyl benzyl phthalate	100000								ug/kg	7840	291	ND	154	1340	147		
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg	1290	291	458	154	ND	147		
Di-n-octyl phthalate	1000000								ug/kg	ND	448	ND	237	ND	226		
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg	ND	291	ND	154	ND	147		
Dibenzofuran	100000								ug/kg	ND	291	ND	154	ND	147		
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg	ND	739	ND	392	ND	373		
Di-n-butyl phthalate	50000								ug/kg	575	448	ND	237	ND	226		
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	2570	291	874	154	ND	147		
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg	ND	291	ND	154	ND	147		
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg	ND	291	ND	154	ND	147		
Hexachlorocyclopentadiene	50000								ug/kg	ND	739	ND	392	ND	373		
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg	ND	291	ND	154	ND	147		
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg	758	291	437	154	ND	147		
Isophorone	100000								ug/kg	ND	291	ND	154	ND	147		
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg	ND	291	ND	154	ND	147		
N-Nitrosodimethylamine	50000								ug/kg	ND	291	ND	154	ND	147		
N-Nitrosodi-n-propylamine	50000								ug/kg	ND	291	ND	154	ND	147		
N-Nitrosodiphenylamine	100000								ug/kg	ND	291	ND	154	ND	147		
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg	ND	739	ND	392	ND	373		
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg	1090	291	239	154	ND	147		
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	2350	291	956	154	ND	147		
m&p-Cresol	500000								ug/kg	ND	582	ND	309	ND	294		
Pyridine	500000								ug/kg	ND	291	ND	154	ND	147		
Azobenzene									ug/kg	ND	291	ND	154	ND	147		
Total Dichlorobenzene	700								ug/kg	ND	291	ND	154	ND	147		

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available
14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										**SS-9/0-1'** 11/14/2023 No 95		**SS-10/0-1'** 11/13/2023 Yes 108		**SS-11/0-1'** 11/13/2023 Yes 106		**SS-12/0-1'** 11/13/2023 Yes 108	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	0.84	ND	1.08	ND	1.02	18.6	1
Arsenic	20	20	20	20	20	50	50	500	mg/kg	3.55	1.28	4.14	1.63	6.34	1.55	**26.8**	1.52
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	30.5	0.42	127	0.54	57.4	0.51	**1250**	0.5
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	0.83	0.42	0.61	0.54	1.08	0.51	0.6	0.5
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	0.69	0.64	5.49	0.82	1	0.77	**33.2**	0.76
Chromium	100	100	100	200	200	200	200	2000	mg/kg	6.39	0.64	15.1	0.82	20	0.77	**169**	0.76
Lead	200	200	200	600	600	600	600	6000	mg/kg	33.6	0.64	**276**	0.82	174	0.77	**2080**	0.76
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	22.7	0.64	45.9	0.82	15.7	0.77	462	0.76
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.28	ND	1.63	ND	1.55	ND	1.52
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.28	ND	1.63	ND	1.55	ND	1.52
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	29.6	0.42	22.7	0.54	33.8	0.51	28.9	0.5
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	150	2.6	**1730**	3.3	171	3.1	**11500**	3
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.42	ND	0.54	ND	0.51	ND	0.5
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	0.14	0.219	0.177	ND	0.172	ND	3.57
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg								
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg								
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg								
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg								
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg								
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg								
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg								
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg								
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg								
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg								
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg								
2,6-Dinitrotoluene	100000								ug/kg								
2-Chloronaphthalene	1000000								ug/kg								
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg								
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg								
Nitrobenzene	500000								ug/kg								
2-Methylphenol	500000								ug/kg								
2-Nitroaniline									ug/kg								
2-Nitrophenol	100000								ug/kg								
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg								
3-Nitroaniline									ug/kg								
4,6-Dinitro-2-methylphenol	50000								ug/kg								
4-Bromophenyl phenyl ether	100000								ug/kg								
4-Chloro-3-methylphenol	1000000								ug/kg								
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg								
4-Chlorophenyl phenyl ether	1000000								ug/kg								
4-Nitroaniline									ug/kg								
4-Nitrophenol	100000								ug/kg								
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg								
Aniline	1000000								ug/kg								
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg								
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg								
Benzoic acid	1000000								ug/kg								
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg								
Bis(2-chloroethoxy)methane	500000								ug/kg								
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg								
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg								
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg								
Butyl benzyl phthalate	100000								ug/kg								
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg								
Di-n-octyl phthalate	1000000								ug/kg								
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg								
Dibenzofuran	100000								ug/kg								
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg								
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg								
Di-n-butyl phthalate	50000								ug/kg								
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg								
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg								
Hexachlorocyclopentadiene	50000								ug/kg								
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg								
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Isophorone	100000								ug/kg								
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg								
N-Nitrosodimethylamine	50000								ug/kg								
N-Nitrosodi-n-propylamine	50000								ug/kg								
N-Nitrosodiphenylamine	100000								ug/kg								
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg								
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg								
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
m&p-Cresol	500000								ug/kg								
Pyridine	500000								ug/kg								
Azobenzene									ug/kg								
Total Dichlorobenzene	700								ug/kg								

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available
14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										SS-13/0-1' 11/13/2023 Yes 106		SS-14/0-1' 11/13/2023 Yes 106		SS-15/0-1' 11/13/2023 Yes 103		SS-16/0-1' 11/13/2023 No 105	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	1.01	ND	0.99	ND	0.78	ND	0.82
Arsenic	20	20	20	20	20	50	50	500	mg/kg	7.43	1.53	8.32	1.5	5.26	1.18	5.34	1.24
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	183	0.5	207	0.5	131	0.39	127	0.41
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	0.73	0.5	0.97	0.5	1.15	0.39	0.92	0.41
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	4.29	0.76	7.06	0.75	4.26	0.59	3.65	0.62
Chromium	100	100	100	200	200	200	200	2000	mg/kg	21.5	0.76	20.6	0.75	11.6	0.59	12.8	0.62
Lead	200	200	200	600	600	600	600	6000	mg/kg	**381**	0.76	**307**	0.75	155	0.59	189	0.62
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	66.7	0.76	61.1	0.75	35.4	0.59	27.4	0.62
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.53	ND	1.5	ND	1.18	ND	1.24
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.53	ND	1.5	ND	1.18	ND	1.24
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	23.7	0.5	34.7	0.5	37.8	0.39	27.3	0.41
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	**1590**	3.1	**2250**	3	**1760**	2.4	593	2.5
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.5	ND	0.5	ND	0.39	ND	0.41
Mercury	20	20	20	30	30	30	30	300	mg/kg	0.997	0.19	0.42	0.167	ND	0.139	ND	0.152
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg	ND	908						
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg	ND	908						
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg	ND	908						
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg	ND	908						
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg	ND	908						
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg	ND	908						
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg	ND	908						
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg	ND	908						
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg	ND	2300						
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg	ND	2300						
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg	ND	908						
2,6-Dinitrotoluene	100000								ug/kg	ND	908						
2-Chloronaphthalene	1000000								ug/kg	ND	908						
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg	ND	908						
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg	ND	908						
Nitrobenzene	500000								ug/kg	ND	908						
2-Methylphenol	500000								ug/kg	ND	908						
2-Nitroaniline									ug/kg	ND	908						
2-Nitrophenol	100000								ug/kg	ND	2300						
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg	ND	2300						
3-Nitroaniline									ug/kg	ND	908						
4,6-Dinitro-2-methylphenol	50000								ug/kg	ND	2300						
4-Bromophenyl phenyl ether	100000								ug/kg	ND	908						
4-Chloro-3-methylphenol	1000000								ug/kg	ND	908						
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg	ND	908						
4-Chlorophenyl phenyl ether	1000000								ug/kg	ND	908						
4-Nitroaniline									ug/kg	ND	908						
4-Nitrophenol	100000								ug/kg	ND	2300						
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	908						
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg	ND	908						
Aniline	1000000								ug/kg	ND	908						
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	908						
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg	ND	908						
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg	ND	908						
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg	ND	908						
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	908						
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg	ND	908						
Benzoic acid	1000000								ug/kg	ND	6980						
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg	ND	209						
Bis(2-chloroethoxy)methane	500000								ug/kg	ND	908						
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg	ND	908						
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg	ND	908						
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg	8980	2790						
Butyl benzyl phthalate	100000								ug/kg	6860	908						
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg	ND	908						
Di-n-octyl phthalate	1000000								ug/kg	ND	1400						
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg	ND	908						
Dibenzofuran	100000								ug/kg	ND	908						
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg	ND	908						
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg	ND	2300						
Di-n-butyl phthalate	50000								ug/kg	ND	1400						
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	908						
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	908						
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg	ND	908						
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg	ND	908						
Hexachlorocyclopentadiene	50000								ug/kg	ND	2300						
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg	ND	908						
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg	ND	908						
Isophorone	100000								ug/kg	ND	908						
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg	ND	908						
N-Nitrosodimethylamine	50000								ug/kg	ND	908						
N-Nitrosodi-n-propylamine	50000								ug/kg	ND	908						
N-Nitrosodiphenylamine	100000								ug/kg	ND	908						
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg	ND	2300						
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg	ND	908						
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg	ND	908						
m&p-Cresol	500000								ug/kg	ND	1820						
Pyridine	500000								ug/kg	ND	908						
Azobenzene									ug/kg	ND	908						
Total Dichlorobenzene	700								ug/kg	ND	908						

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available
14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										**SS-17/0-1'** 11/13/2023 No 105		**SS-18/0-1'** 11/13/2023 Yes 114		**SS-19/0-1'** 11/13/2023 No 114		**SS-20/0-1'** 11/13/2023 Yes 115	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	0.8	ND	0.91	ND	0.77	ND	0.98
Arsenic	20	20	20	20	20	50	50	500	mg/kg	3.7	1.21	6.15	1.38	2.41	1.17	10.5	1.49
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	36.5	0.4	123	0.46	24.8	0.38	321	0.49
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	0.74	0.4	1.04	0.46	0.8	0.38	1.19	0.49
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	0.77	0.61	3.32	0.69	ND	0.58	9.4	0.74
Chromium	100	100	100	200	200	200	200	2000	mg/kg	6.57	0.61	15.9	0.69	5.22	0.58	24.2	0.74
Lead	200	200	200	600	600	600	600	6000	mg/kg	104	0.61	200	0.69	24	0.58	**493**	0.74
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	9.43	0.61	38.1	0.69	7.73	0.58	74	0.74
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.21	ND	1.38	ND	1.17	ND	1.49
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.21	ND	1.38	ND	1.17	ND	1.49
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	20.1	0.4	37.7	0.46	18.2	0.38	39.6	0.49
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	129	2.4	942	2.8	87.4	2.3	**2870**	3
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.4	ND	0.46	ND	0.38	ND	0.49
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	0.159	ND	0.162	ND	0.148	0.361	0.169
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg			ND	794				
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg			ND	794				
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg			ND	794				
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg			ND	794				
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg			ND	794				
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg			ND	794				
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg			ND	794				
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg			ND	794				
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg			ND	2020				
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg			ND	2020				
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg			ND	794				
2,6-Dinitrotoluene	100000								ug/kg			ND	794				
2-Chloronaphthalene	1000000								ug/kg			ND	794				
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg			ND	794				
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg			ND	794				
Nitrobenzene	500000								ug/kg			ND	794				
2-Methylphenol	500000								ug/kg			ND	794				
2-Nitroaniline									ug/kg			ND	794				
2-Nitrophenol	100000								ug/kg			ND	2020				
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg			ND	2020				
3-Nitroaniline									ug/kg			ND	794				
4,6-Dinitro-2-methylphenol	50000								ug/kg			ND	2020				
4-Bromophenyl phenyl ether	100000								ug/kg			ND	794				
4-Chloro-3-methylphenol	1000000								ug/kg			ND	794				
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg			ND	794				
4-Chlorophenyl phenyl ether	1000000								ug/kg			ND	794				
4-Nitroaniline									ug/kg			ND	794				
4-Nitrophenol	100000								ug/kg			ND	2020				
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	794				
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg			ND	794				
Aniline	1000000								ug/kg			ND	794				
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	794				
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg			ND	794				
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg			ND	794				
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg			ND	794				
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	794				
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg			ND	794				
Benzoic acid	1000000								ug/kg			ND	6110				
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg			ND	183				
Bis(2-chloroethoxy)methane	500000								ug/kg			ND	794				
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg			ND	794				
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg			ND	794				
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg			2740	2440				
Butyl benzyl phthalate	100000								ug/kg			3100	794				
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg			ND	794				
Di-n-octyl phthalate	1000000								ug/kg			ND	1220				
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg			ND	794				
Dibenzofuran	100000								ug/kg			ND	794				
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg			ND	794				
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg			ND	2020				
Di-n-butyl phthalate	50000								ug/kg			ND	1220				
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	794				
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	794				
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg			ND	794				
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg			ND	794				
Hexachlorocyclopentadiene	50000								ug/kg			ND	2020				
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg			ND	794				
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg			ND	794				
Isophorone	100000								ug/kg			ND	794				
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg			ND	794				
N-Nitrosodimethylamine	50000								ug/kg			ND	794				
N-Nitrosodi-n-propylamine	50000								ug/kg			ND	794				
N-Nitrosodiphenylamine	100000								ug/kg			ND	794				
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg			ND	2020				
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg			ND	794				
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	794				
m&p-Cresol	500000								ug/kg			ND	1590				
Pyridine	500000								ug/kg			ND	794				
Azobenzene									ug/kg			ND	794				
Total Dichlorobenzene	700								ug/kg			ND	794				

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available
14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										**SS-21/0-1'** 11/13/2023 No 109		**SS-22/0-1'** 11/13/2023 Yes 110		**SS-23/0-1'** 11/13/2023 No 110		**SS-24/0-1'** 11/13/2023 Yes 111	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	0.83	ND	0.88	ND	0.95	**27.5**	0.99
Arsenic	20	20	20	20	20	50	50	500	mg/kg	2.85	1.26	4.4	1.34	4.22	1.44	**29.7**	1.51
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	43.2	0.41	278	0.44	74.2	0.48	812	0.5
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	1.06	0.41	1.19	0.44	2.15	0.48	0.83	0.5
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	2.39	0.63	1.38	0.67	1.91	0.72	26.1	0.75
Chromium	100	100	100	200	200	200	200	2000	mg/kg	6.24	0.63	16.2	0.67	4.01	0.72	81.8	0.75
Lead	200	200	200	600	600	600	600	6000	mg/kg	38.1	0.63	76.5	0.67	28.7	0.72	**2060**	0.75
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	19.8	0.63	39.6	0.67	5.95	0.72	270	0.75
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.26	ND	1.34	ND	1.44	ND	1.51
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.26	ND	1.34	ND	1.44	ND	1.51
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	37.8	0.41	46.4	0.44	84.5	0.48	34.5	0.5
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	458	2.5	215	2.7	129	2.9	**7110**	3
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.41	ND	0.44	ND	0.48	ND	0.5
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	0.136	ND	0.155	ND	0.163	ND	1.64
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg			ND	147				
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg			ND	147				
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg			ND	147				
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg			ND	147				
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg			ND	147				
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg			ND	147				
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg			ND	147				
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg			ND	147				
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg			ND	373				
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg			ND	373				
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg			ND	147				
2,6-Dinitrotoluene	100000								ug/kg			ND	147				
2-Chloronaphthalene	1000000								ug/kg			ND	147				
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg			ND	147				
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg			ND	147				
Nitrobenzene	500000								ug/kg			ND	147				
2-Methylphenol	500000								ug/kg			ND	147				
2-Nitroaniline									ug/kg			ND	147				
2-Nitrophenol	100000								ug/kg			ND	373				
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg			ND	373				
3-Nitroaniline									ug/kg			ND	147				
4,6-Dinitro-2-methylphenol	50000								ug/kg			ND	373				
4-Bromophenyl phenyl ether	100000								ug/kg			ND	147				
4-Chloro-3-methylphenol	1000000								ug/kg			ND	147				
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg			ND	147				
4-Chlorophenyl phenyl ether	1000000								ug/kg			ND	147				
4-Nitroaniline									ug/kg			ND	147				
4-Nitrophenol	100000								ug/kg			ND	373				
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	147				
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg			ND	147				
Aniline	1000000								ug/kg			ND	147				
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	147				
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg			ND	147				
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg			ND	147				
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg			ND	147				
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	147				
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg			ND	147				
Benzoic acid	1000000								ug/kg			ND	1130				
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg			ND	34				
Bis(2-chloroethoxy)methane	500000								ug/kg			ND	147				
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg			ND	147				
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg			ND	147				
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg			ND	452				
Butyl benzyl phthalate	100000								ug/kg			259	147				
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg			ND	147				
Di-n-octyl phthalate	1000000								ug/kg			ND	226				
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg			ND	147				
Dibenzofuran	100000								ug/kg			ND	147				
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg			ND	147				
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg			ND	373				
Di-n-butyl phthalate	50000								ug/kg			ND	226				
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	147				
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	147				
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg			ND	147				
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg			ND	147				
Hexachlorocyclopentadiene	50000								ug/kg			ND	373				
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg			ND	147				
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg			ND	147				
Isophorone	100000								ug/kg			ND	147				
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg			ND	147				
N-Nitrosodimethylamine	50000								ug/kg			ND	147				
N-Nitrosodi-n-propylamine	50000								ug/kg			ND	147				
N-Nitrosodiphenylamine	100000								ug/kg			ND	147				
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg			ND	373				
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg			ND	147				
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg			ND	147				
m&p-Cresol	500000								ug/kg			ND	294				
Pyridine	500000								ug/kg			ND	147				
Azobenzene									ug/kg			ND	147				
Total Dichlorobenzene	700								ug/kg			ND	147				

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available
14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										**SS-25/0-1'** 11/13/2023 No 110		**SS-26/0-1'** 11/14/2023 Yes 88		**SS-27/0-1'** 11/14/2023 Yes 89		**SS-28/0-1'** 11/14/2023 Yes 93	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	0.79	ND	1	**231**	1.04	5.77	1.03
Arsenic	20	20	20	20	20	50	50	500	mg/kg	3.77	1.2	13.2	1.51	**35.3**	1.58	**20.9**	1.56
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	38.6	0.39	**1270**	0.5	**1250**	0.52	460	0.51
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	1.01	0.39	1.68	0.5	ND	0.52	ND	0.51
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	1.3	0.6	14.8	0.76	47.7	0.79	19.8	0.78
Chromium	100	100	100	200	200	200	200	2000	mg/kg	10.1	0.6	46	0.76	**113**	0.79	64.7	0.78
Lead	200	200	200	600	600	600	600	6000	mg/kg	67.9	0.6	**1190**	0.76	**3670**	0.79	**967**	0.78
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	12.9	0.6	**1970**	0.76	**3230**	0.79	**2100**	0.78
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.2	ND	1.51	ND	1.58	ND	1.56
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.2	ND	1.51	ND	1.58	ND	1.56
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	33	0.39	71.2	0.5	26.4	0.52	16.1	0.51
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	193	2.4	**6570**	3	**17100**	3.2	**2110**	3.1
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.39	ND	0.5	ND	0.52	ND	0.51
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	0.148	0.868	0.16	1.84	1.77	2.29	1.63
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg								
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg								
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg								
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg								
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg								
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg								
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg								
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg								
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg								
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg								
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg								
2,6-Dinitrotoluene	100000								ug/kg								
2-Chloronaphthalene	1000000								ug/kg								
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg								
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg								
Nitrobenzene	500000								ug/kg								
2-Methylphenol	500000								ug/kg								
2-Nitroaniline									ug/kg								
2-Nitrophenol	100000								ug/kg								
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg								
3-Nitroaniline									ug/kg								
4,6-Dinitro-2-methylphenol	50000								ug/kg								
4-Bromophenyl phenyl ether	100000								ug/kg								
4-Chloro-3-methylphenol	1000000								ug/kg								
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg								
4-Chlorophenyl phenyl ether	1000000								ug/kg								
4-Nitroaniline									ug/kg								
4-Nitrophenol	100000								ug/kg								
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg								
Aniline	1000000								ug/kg								
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg								
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg								
Benzoic acid	1000000								ug/kg								
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg								
Bis(2-chloroethoxy)methane	500000								ug/kg								
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg								
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg								
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg								
Butyl benzyl phthalate	100000								ug/kg								
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg								
Di-n-octyl phthalate	1000000								ug/kg								
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg								
Dibenzofuran	100000								ug/kg								
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg								
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg								
Di-n-butyl phthalate	50000								ug/kg								
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg								
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg								
Hexachlorocyclopentadiene	50000								ug/kg								
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg								
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg								
Isophorone	100000								ug/kg								
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg								
N-Nitrosodimethylamine	50000								ug/kg								
N-Nitrosodi-n-propylamine	50000								ug/kg								
N-Nitrosodiphenylamine	100000								ug/kg								
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg								
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg								
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg								
m&p-Cresol	500000								ug/kg								
Pyridine	500000								ug/kg								
Azobenzene									ug/kg								
Total Dichlorobenzene	700								ug/kg								

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
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14 Barnes Road =
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Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										**SS-29/0-1'** 11/14/2023 Yes 89		**SS-30/0-1'** 11/14/2023 No 88		**SS-31/0-1'** 9/27/2023 No Organics		**SS-32/0-1'** 9/27/2023 No Organics	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals																	
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	1	ND	0.85	7.08	1.01	2.52	1.01
Arsenic	20	20	20	20	20	50	50	500	mg/kg	**30.3**	1.51	5.33	1.29	5.12	1.53	5.46	1.53
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	**1370**	0.5	59.9	0.42	38.7	0.51	106	0.5
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	ND	0.5	0.79	0.42	ND	0.51	ND	0.5
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	43.2	0.76	2.74	0.64	ND	0.77	1.42	0.76
Chromium	100	100	100	200	200	200	200	2000	mg/kg	**142**	0.76	14.4	0.64	9.78	0.77	42.6	0.76
Lead	200	200	200	600	600	600	600	6000	mg/kg	**2820**	0.76	**254**	0.64	41.7	0.77	**252**	0.76
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	347	0.76	20	0.64	7.68	0.77	17.2	0.76
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.51	ND	1.29	ND	1.53	ND	1.53
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.51	ND	1.29	ND	1.53	ND	1.53
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	21.3	0.5	20.6	0.42	31.7	0.51	69.2	0.5
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	**9760**	3	519	2.6	54.2	3.1	169	3.1
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.5	ND	0.42	ND	0.51	ND	0.5
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	1.58	ND	0.162	ND	0.185	0.253	0.156
Semivolatile organic compounds																	
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg							ND	828
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg							ND	828
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg							ND	828
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg							ND	828
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg							ND	828
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg							ND	828
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg							ND	828
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg							ND	828
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg							ND	2100
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg							ND	2100
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg							ND	828
2,6-Dinitrotoluene	100000								ug/kg							ND	828
2-Chloronaphthalene	1000000								ug/kg							ND	828
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg							ND	828
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg							ND	828
Nitrobenzene	500000								ug/kg							ND	828
2-Methylphenol	500000								ug/kg							ND	828
2-Nitroaniline									ug/kg							ND	828
2-Nitrophenol	100000								ug/kg							ND	2100
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg							ND	2100
3-Nitroaniline									ug/kg							ND	828
4,6-Dinitro-2-methylphenol	50000								ug/kg							ND	2100
4-Bromophenyl phenyl ether	100000								ug/kg							ND	828
4-Chloro-3-methylphenol	1000000								ug/kg							ND	828
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg							ND	828
4-Chlorophenyl phenyl ether	1000000								ug/kg							ND	828
4-Nitroaniline									ug/kg							ND	828
4-Nitrophenol	100000								ug/kg							ND	2100
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg							1420	828
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg							912	828
Aniline	1000000								ug/kg							ND	828
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg							4590	828
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg							**12500**	828
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg							**12700**	828
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg							**16400**	828
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg							9340	828
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg							5990	828
Benzoic acid	1000000								ug/kg							ND	6370
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg							**233**	191
Bis(2-chloroethoxy)methane	500000								ug/kg							ND	828
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg							ND	828
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg							ND	828
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg							ND	2550
Butyl benzyl phthalate	100000								ug/kg							ND	828
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg							13800	828
Di-n-octyl phthalate	1000000								ug/kg							ND	1270
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg							**2420**	828
Dibenzofuran	100000								ug/kg							1340	828
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg							ND	828
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg							ND	2100
Di-n-butyl phthalate	50000								ug/kg							ND	1270
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg							25200	828
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg							2030	828
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg							ND	828
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg							ND	828
Hexachlorocyclopentadiene	50000								ug/kg							ND	2100
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg							ND	828
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg							**9040**	828
Isophorone	100000								ug/kg							ND	828
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg							1150	828
N-Nitrosodimethylamine	50000								ug/kg							ND	828
N-Nitrosodi-n-propylamine	50000								ug/kg							ND	828
N-Nitrosodiphenylamine	100000								ug/kg							ND	828
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg							ND	2100
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg							**22000**	828
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg							25600	828
m&p-Cresol	500000								ug/kg							ND	1660
Pyridine	500000								ug/kg							ND	828
Azobenzene									ug/kg							ND	828
Total Dichlorobenzene	700								ug/kg							ND	828

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
ASR = Automobile Shredding Residue
ug/Kg = micrograms per kilogram (parts per billion)
NE = No Method 1 Standard or UCL available
14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

Table 1B
Summary of Surficial Soil Sample Analytical Results-Metals SVOCs
Vacant Parcels
Cedar Road Barnes Road
Salem, MA

Sample ID & Depth Sample Date Visual presence of ASR Soil Material										SS-33/0-1' 9/27/2023 No Organics		SS-34/0-1' 9/27/2023 No Organics		SS-35/0-1' 9/27/2023 No Organics	
Compound Name	RCS-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3	S-2 SOIL & GW-2	S-2 SOIL & GW-3	S-3 SOIL & GW-2	S-3 SOIL & GW-3	UCL	Units	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit
Total Metals															
Antimony	20	20	20	30	30	30	30	300	mg/kg	ND	0.9	ND	0.85	ND	0.83
Arsenic	20	20	20	20	20	50	50	500	mg/kg	3.72	1.37	3.63	1.29	3.52	1.25
Barium	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	41.5	0.45	58.1	0.42	41.5	0.41
Beryllium	90	90	90	200	200	200	200	2000	mg/kg	0.49	0.45	0.5	0.42	0.47	0.41
Cadmium	70	70	70	100	100	100	100	1000	mg/kg	0.7	0.68	0.92	0.64	0.63	0.63
Chromium	100	100	100	200	200	200	200	2000	mg/kg	12.4	0.68	15.7	0.64	15.8	0.63
Lead	200	200	200	600	600	600	600	6000	mg/kg	44	0.68	69.7	0.64	46.5	0.63
Nickel	600	600	600	1000	1000	1000	1000	10000	mg/kg	14.2	0.68	13.8	0.64	15.8	0.63
Selenium	400	400	400	700	700	700	700	7000	mg/kg	ND	1.37	ND	1.29	ND	1.25
Silver	100	100	100	200	200	200	200	2000	mg/kg	ND	1.37	ND	1.29	ND	1.25
Vanadium	400	400	400	700	700	700	700	7000	mg/kg	39.7	0.45	55.9	0.42	36	0.41
Zinc	1000	1000	1000	3000	3000	5000	5000	10000	mg/kg	94.8	2.7	104	2.6	81.9	2.5
Thallium	8	8	8	60	60	80	80	800	mg/kg	ND	0.45	ND	0.42	ND	0.41
Mercury	20	20	20	30	30	30	30	300	mg/kg	ND	0.152	ND	0.16	ND	0.161
Semivolatile organic compounds															
1,2,4-Trichlorobenzene	2000	6000	700000	6000	3000000	6000	5000000	1.00E+07	ug/kg						
1,2-Dichlorobenzene	9000	100000	300000	100000	300000	100000	300000	1.00E+07	ug/kg						
1,3-Dichlorobenzene	3000	100000	100000	200000	500000	200000	500000	5000000	ug/kg						
1,4-Dichlorobenzene	700	1000	80000	1000	400000	1000	2000000	1.00E+07	ug/kg						
Phenol	1000	50000	20000	50000	20000	50000	20000	1.00E+07	ug/kg						
2,4,5-Trichlorophenol	4000	1000000	600000	1000000	600000	1000000	600000	1.00E+07	ug/kg						
2,4,6-Trichlorophenol	700	20000	20000	20000	20000	20000	20000	4000000	ug/kg						
2,4-Dichlorophenol	700	60000	40000	60000	40000	60000	40000	6000000	ug/kg						
2,4-Dimethylphenol	700	100000	500000	100000	1000000	100000	1000000	1.00E+07	ug/kg						
2,4-Dinitrophenol	3000	50000	50000	50000	100000	50000	100000	8000000	ug/kg						
2,4-Dinitrotoluene	700	2000	2000	10000	10000	50000	80000	800000	ug/kg						
2,6-Dinitrotoluene	100000								ug/kg						
2-Chloronaphthalene	1000000								ug/kg						
2-Chlorophenol	700	100000	100000	100000	300000	100000	300000	3000000	ug/kg						
2-Methylnaphthalene	700	80000	300000	80000	500000	80000	500000	5000000	ug/kg						
Nitrobenzene	500000								ug/kg						
2-Methylphenol	500000								ug/kg						
2-Nitroaniline									ug/kg						
2-Nitrophenol	100000								ug/kg						
3,3'-Dichlorobenzidine	3000	3000	3000	20000	20000	100000	100000	1000000	ug/kg						
3-Nitroaniline									ug/kg						
4,6-Dinitro-2-methylphenol	50000								ug/kg						
4-Bromophenyl phenyl ether	100000								ug/kg						
4-Chloro-3-methylphenol	1000000								ug/kg						
4-Chloroaniline	1000	7000	3000	40000	3000	40000	3000	400000	ug/kg						
4-Chlorophenyl phenyl ether	1000000								ug/kg						
4-Nitroaniline									ug/kg						
4-Nitrophenol	100000								ug/kg						
Acenaphthene	4000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg						
Acenaphthylene	1000	600000	10000	600000	10000	600000	10000	1.00E+07	ug/kg						
Aniline	1000000								ug/kg						
Anthracene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg						
Benzo(a)anthracene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg						
Benzo(a)pyrene	2000	2000	2000	7000	7000	30000	30000	300000	ug/kg						
Benzo(b)fluoranthene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg						
Benzo(g,h,i)perylene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg						
Benzo(k)fluoranthene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg						
Benzoic acid	1000000								ug/kg						
Biphenyl	50	6000	1000000	6000	3000000	6000	5000000	1.00E+07	ug/kg						
Bis(2-chloroethoxy)methane	500000								ug/kg						
Bis(2-chloroethyl)ether	700	700	2000	700	8000	700	80000	800000	ug/kg						
Bis(2-chloroisopropyl)ether	700	700	30000	700	100000	700	1000000	1.00E+07	ug/kg						
Bis(2-ethylhexyl)phthalate	90000	90000	90000	600000	600000	2000000	2000000	1.00E+07	ug/kg						
Butyl benzyl phthalate	100000								ug/kg						
Chrysene	70000	70000	70000	400000	400000	3000000	3000000	1.00E+07	ug/kg						
Di-n-octyl phthalate	1000000								ug/kg						
Dibenz(a,h)anthracene	700	700	700	4000	4000	30000	30000	300000	ug/kg						
Dibenzofuran	100000								ug/kg						
Diethyl phthalate	10000	200000	300000	200000	300000	200000	300000	1.00E+07	ug/kg						
Dimethyl phthalate	700	50000	600000	50000	600000	50000	600000	1.00E+07	ug/kg						
Di-n-butyl phthalate	50000								ug/kg						
Fluoranthene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg						
Fluorene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg						
Hexachlorobenzene	700	700	700	800	800	800	800	8000	ug/kg						
Hexachlorobutadiene	30000	30000	30000	100000	100000	100000	100000	1000000	ug/kg						
Hexachlorocyclopentadiene	50000								ug/kg						
Hexachloroethane	700	3000	50000	3000	200000	3000	200000	2000000	ug/kg						
Indeno(1,2,3-cd)pyrene	7000	7000	7000	40000	40000	300000	300000	3000000	ug/kg						
Isophorone	100000								ug/kg						
Naphthalene	4000	20000	500000	20000	1000000	20000	3000000	1.00E+07	ug/kg						
N-Nitrosodimethylamine	50000								ug/kg						
N-Nitrosodi-n-propylamine	50000								ug/kg						
N-Nitrosodiphenylamine	100000								ug/kg						
Pentachlorophenol	3000	3000	3000	20000	10000	70000	10000	700000	ug/kg						
Phenanthrene	10000	500000	500000	1000000	1000000	3000000	3000000	1.00E+07	ug/kg						
Pyrene	1000000	1000000	1000000	3000000	3000000	5000000	5000000	1.00E+07	ug/kg						
m&p-Cresol	500000								ug/kg						
Pyridine	500000								ug/kg						
Azobenzene									ug/kg						
Total Dichlorobenzene	700								ug/kg						

Notes:
mg/kg= milligrams per kilogram (parts per million)
ND = not detected above the lab reporting limits shown
Bold/Highlighted values exceed MassDEP Most Stringent Standard
UCL- MassDEP Upper Concentration Limit
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14 Barnes Road =
16 Barnes Road =
12 Cedar Road =
14 Cedar Road =
16 Cedar Road =
Cedar Road Easement =

APPENDIX A

Weston & Sampson

55 Walkers Brook Drive, Suite 100, Reading, MA
Tel: 978.532.1900

August 28, 2020

Mr. Chris Koeplin
Beverly Crossing
116 Rantoul St
Beverly, MA 02142

Re: **Work Scope and Cost Estimate – Peer Review and MCP/TSCA Remediation Strategy**
Overlook Acres - Salem, MA

Dear Mr. Koeplin:

Weston & Sampson Engineers, Inc. (Weston & Sampson) is pleased to provide this scope of work and fee to Beverly Crossing to perform peer review and development of an assessment/remediation strategy for the above-mentioned property (the Site) that is compliant with the Toxic Substances Control Act (TSCA, 761 CFR 61) and the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000). Weston & Sampson was requested to review the existing reports, develop a site assessment approach to satisfy the requirements of a risk-based cleanup plan completed in accordance with 761 CFR 61(c), and conduct preliminary Massachusetts Contingency Plan (MCP, 310 CMR 40.0000) response actions for the Site. This proposal is based on our review of existing Phase I and II Environmental Site Assessment reports and discussions with you and Licensed Site Professional, Luke Fabbri of Geological Field Services.

PROJECT UNDERSTANDING

Based on our conference call and preliminary review of the reports conveyed to us by Mr. Scott Grover of Tinti & Navins, PC, we understand the above-referenced property is under evaluation for development as a large multi-unit residential development. We also understand that the property history includes filling of potential automobile fluff waste in thickness exceeding 25 feet. Based on a review of aerial imagery for the Site, it appears that the filling of automobile fluff waste occurred prior to 1978, the effective date of the TSCA regulations. Therefore, in accordance with the TSCA regulations, soil/waste material containing greater than 50 mg/kg will require remediation in accordance with the TSCA regulations and soil/material containing less than 50 mg/kg will not be TSCA-regulated but will be required to comply with the MCP. Our site assessment approach has been developed with the assumption that filling occurred prior to 1978 and that assessment following Subpart N of the TSCA regulations will only be required to delineate any total PCB concentrations greater than 50 mg/kg. MCP response actions included in this proposal includes the potential discovery of an Imminent Hazard associated with either PCB or lead concentrations and the subsequent IH evaluation, MassDEP reporting, and development of an IRA Plan. Additional MCP response actions will be evaluated following the results of the site assessment rproposed below.

SCOPE OF WORK

Task 1 – Review of Existing Reports and Preparation of a Site-Specific Health & Safety Plan (HASP)

Weston & Sampson will review the existing GFS Phase II Site assessment report and the Chubb Phase I and II Environmental Site Assessments. We will utilize this information to assess the history of the property, preliminary extent of waste from the existing information and needs to further assess required TSCA and MCP-compliant assessment/remediation approaches for the Site. We will also use the existing analytical and site data to prepare a Site-specific HASP for the proposed site assessment activities below.

Task 2 –Site Assessment to support TSCA Risk Based Plan and Preliminary MCP Response Actions

Weston & Sampson will conduct a site assessment to satisfy the preparation of a risk-based cleanup plan in accordance with TSCA 761 CFR 61(c). Typically, the USEPA PCB Manager requires a 25-foot square based grid for initial soil boring advancement over the extent of contamination. However, since the filling of this site appears to be pre-1978, we will do an initial assessment of the Site on a 50-foot grid. Should elevated concentrations of PCBs (i.e. greater than 50 ppm total PCBs) exist, sample collection on a ten-foot square based grid is typically required by the USEPA PCB Manager to further delineate these elevated concentrations. Our assessment will include a combination of these grid sampling intervals on a four-foot vertical sampling interval (e.g. 0-0.5 ft, 4-4.5 ft etc.) throughout the waste thickness (estimated 100 soil borings to depth of on average 15 feet below ground surface). We will composite samples from each four-foot interval, but also collect samples on a two foot interval which will be held at the laboratory and activated only if concentrations are greater than 25 mg/kg in the four foot composite sample. Based on prior

experience, USEPA will assume that a four-foot sample interval may dilute a two foot sample interval, which is typically required. However, we recommend this initial sampling interval to avoid over $25,000 of additional sampling costs.

Establishing the sampling grid will be conducted by the field crew prior to drilling and during site clearing activities if needed. Grid points will be staked in the field using a letter/number designation such as A1, A2, B1, B2 etc.

Soil samples will be collected for PCB analysis via EPA Method 8082 using Soxhlet extraction via Method 3540C. In addition, we will also include preliminary MCP response actions including the installation, development and sampling of five (5) monitoring wells for analysis of PCBs, dissolved CAM 14 metals, volatile organic compounds (VOCs) and extractable petroleum hydrocarbons (EPH) with target polycyclic aromatic hydrocarbons (PAHs) via EPA low-flow sampling techniques. Collection of up to 25 additional soil, five (5) surface water, and (5) wetland sediment samples throughout the area of contamination will also be conducted for these analytes. We will also conduct screening of soils for VOCs using a Photoionization detector in the field.

We have included budget to perform limited tree clearing for access, the performance of a preliminary human health risk assessment to support the completion of the risk-based cleanup plan, and an MCP Stage I ecological risk assessment. GFS will be subcontracted to Weston & Sampson during this task for additional field support and institutional knowledge of the Site gained form the prior investigation. Weston & Sampson will locate the monitoring wells and sample locations in the field using geographic positioning system (GPS) and will convey this information to Beverly Crossing.

Based on the results of the MCP 14 Metals testing, additional analysis for Toxicity Characteristic Leachate Procedure (TCLP) will be required since existing lead concentrations exceed theoretical RCRA "20 Times Rule" thresholds.

The requested laboratory turnaround time (TAT) for all analyses will be at (standard) 5-7 business days.

Task 3 – Letter Report:
Data will be evaluated, tabulated and presented to Beverly Crossing in a brief letter report which describes the results and recommended next steps. We will meet as a project team at this point to develop the regulatory approach for cleanup and required actions. We assume the meeting will be one hour in length for the LSP and project Manager.

Task 4- Preparation of a TSCA Risk-Based Cleanup Plan (if necessary)
Weston & Sampson will prepare a risk-based cleanup plan in accordance with TSCA 761 CFR61(c) for soil/waste containing greater than 50 mg/Kg total PCBs. The risk-based plan will be prepared to satisfy the assessment, remediation and environmental monitoring requirements under TSCA and conditions typically imposed by USEPA on similar projects. Weston & Sampson has completed numerous similar projects with the USEPA PCB Manager and will use this past experience to help obtain approval of the plan in as quick a timeframe as possible. We have included time to meet virtually for four (4) hours of LSP and project manager time during the risk-based plan review period by USEPA. Should total PCB concentrations not exceed 50 mg/kg, we have included budget to prepare an Immediate Response Action (IRA) Plan

Task 5 – Imminent Hazard (IH) evaluation and Preparation of an MCP Immediate Response Action Plan (if necessary)
MCP response actions included in this proposal includes the potential discovery of an Imminent Hazard associated with either PCB or lead concentrations and the subsequent IH evaluation, Should an IH exist at the Site, we will notify the property owner and assist the property owner with reporting to MassDEP within two hours of the property owner obtaining knowledge of the IH in accordance with the MCP 310 CMR 40.0311. We will prepare MassDEP reporting, and development of an IRA Plan. ***Additional MCP response actions will be evaluated following the results of the site assessment proposed above.***

PROJECT FEE

To complete the Scope of Work as described above, we recommend establishing a lump see ***fee of $160,000*** for Tasks 1-3 broken out by below. We provided costs for Task 4 and 5 but those are pending the results of the Site Assessment

Task 1: Report Review and HASP	$5,000
Task 2: Site Assessment Activities (includes $16,500 for drilling, $50,000 for lab, and $10,000 for ecological and human health risk assessor, and $7500 for disposal of IDW and tree clearing)	$143,000
Task 3: Letter Report	$12,000
Task 4: TSCA Risk Based Plan (if necessary)	$27,000
Task 5: IH Evaluation and IRA Plan (if necessary)	$15,000

SCHEDULE

Weston & Sampson is prepared to initiate this scope of work immediately upon approval from Beverly Crossing and receipt of the signed notice to proceed and General Ters and Conditions discussed below. We anticipate 2-4 weeks to complete contractual arrangements and complete Task 1, conduct tree clearing and establish the sampling grid. We anticipate 4-6 weeks to complete Task 2 and 2-4 weeks to complete Task 3. Based on these durations we anticipate completing Task 1-3 around November 30, 2020.

ASSUMPTIONS / EXCLUSIONS

- Weston & Sampson assumes all subsurface clearance will be completed by our drilling subcontractor and assumes no liability for damaged utilities
- We assume that soil sample collection can be done in Modified Level D
- We will use our corporate health & safety plan template and COVID-19 social distancing and PPE (cloth mask, gloves, and eye protection)
- We assume a ten-hour workday including travel to and from the Site
- Sample results and recommendations will be sent via email correspondence
- We assume all meetings will be virtual via Zoom or MS teams and one hour in length
- All residual soil at the lab will be returned to the Site and managed in accordance with TSCA/MCP.
- Tree clearing is budgeted at $5,000 as an allowance
- Investigation derived decontamination fluid for the driller will be drummed and disposed of accordingly pending analytical results. We have budgeted $2,500 for drum removal.
- Pneumatic direct push drilling generates little excess soil volume and we assume this volume will be returned to the subsurface or spread at the borehole location on the ground surface.
- Mileage will be billed at the current federal government rate for the duration of the project

BILLING TERMS FOR SERVICES RENDERED

Weston & Sampson will invoice Beverly Crossing monthly for all services rendered, on a lump sum basis. Invoices will be generated by the end of each month and will be directly mailed to your accounts payable department (or other entity assigned). If you agree with this proposal and wish to retain us to provide the proposed services, please sign the Notice to Proceed below and our General Terms and Conditions to authorize commencement of services.

If you have any questions, comments, or concerns regarding our scope of work, proposed fee, or project schedule, please do not hesitate to contact me at 978-532-1900 EXT. 2348 or via email at ricciarf@wseinc.com.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.



Frank Ricciardi, PE, LSP
Vice President

Attachment: Weston & Sampson General Terms and Conditions

NOTICE TO PROCEED

Name _____

Title _____

Signature _____

Date _____

Weston & Sampson

MEMORANDUM

TO: Chris Koeplin

FROM: Frank Ricciardi, PE, LSP

DATE: 11/17/2020

SUBJECT: Overlook Acres – Summary of Environmental Work

In September 2020, Weston & Sampson was retained by Beverly Crossing to conduct environmental/due diligence site assessment activities following the discovery of elevated PCB and lead concentrations in soil/fill material on privately-owned land located in on Highland Ave between Barnes and Cedar Street in Salem, Massachusetts. Twenty-six (26) soil borings were advanced via direct push and hollow-stem auger (HSA) drilling methods over a 50-foot by 50-foot grid within the estimated limits of a historic automobile shredding residue (ASR, commonly referred to as autofluff) dumping area. The historic dumping area was filled with ASR in depths exceeding 35 feet (ft) below ground surface (bgs). During environmental due diligence activities, Weston & Sampson collected 110 composite samples and 170 grab samples for lab analysis polychlorinated biphenyls (PCBs) and 24 grab samples and 5 sediment samples for lab analysis of PCBs, volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), and Massachusetts Contingency Plan (MCP) 14 metals from locations identified with ASR fill material and/or suspected impacts. All analytical testing was performed by a properly licensed laboratory in the state of Massachusetts.

Elevated concentrations of PCBs were found exceeding Upper Concentration Limits (UCLs), which represent concentrations of oil and/or hazardous material which, if exceeded under the conditions specified below, indicate the potential for significant risk of harm to public welfare and the environment under future conditions. In addition, elevated concentrations of PCBs and lead were discovered throughout the property in the top one foot of soil representing an Imminent Hazard (IH) for trespassers and residential receptors. An IH represents a 2-hour MCP notification condition for the property owner to notify the Massachusetts Department of Environmental Protection (MassDEP). Residential properties are located within 500 feet of these IH concentrations. The IH condition was shared at a meeting with the property owner, owner's counsel, and their LSP on 11/6/2020 at 1pm. Concentrations of numerous additional contaminants in soil/ASR fill exceeded MCP Reportable Concentrations (RCs) S-1 Standard (RCS-1), which triggers a 120-day notification condition to the MassDEP. Since PCBs are regulated by the Environmental Protection Agency (EPA) under the Toxic Substance Control Act (TSCA), any remediation of the ASR fill (which is also regulated as TSCA PCB

Remediation Waste) must follow the prescribed remediation methods in the TSCA regulations. These regulations require EPA approval for remediation of the Site unless all ASR fill containing greater than 50 mg/kg of PCBs is disposed at a TSCA-certified landfill. Total metal concentrations, specifically lead, were also found exceeding Toxicity Characteristic Leaching Procedure (TCLP) limits indicating the fill is a characteristic hazardous waste for leachability and must be managed as a Resource Conservation and Recovery Act (RCRA) hazardous waste. In the downgradient wetland areas, total metal, and polycyclic aromatic hydrocarbon (PAH) concentrations in sediment were found exceeding Probable Effects Concentrations (PECs) and based on the concentrations detected, will most likely require wetland remediation/replication. Preliminary cost estimates for the remediation of this property are estimated in excess of $12M and potentially up to $37M if all waste were to be disposed offsite at a TSCA certified facility.

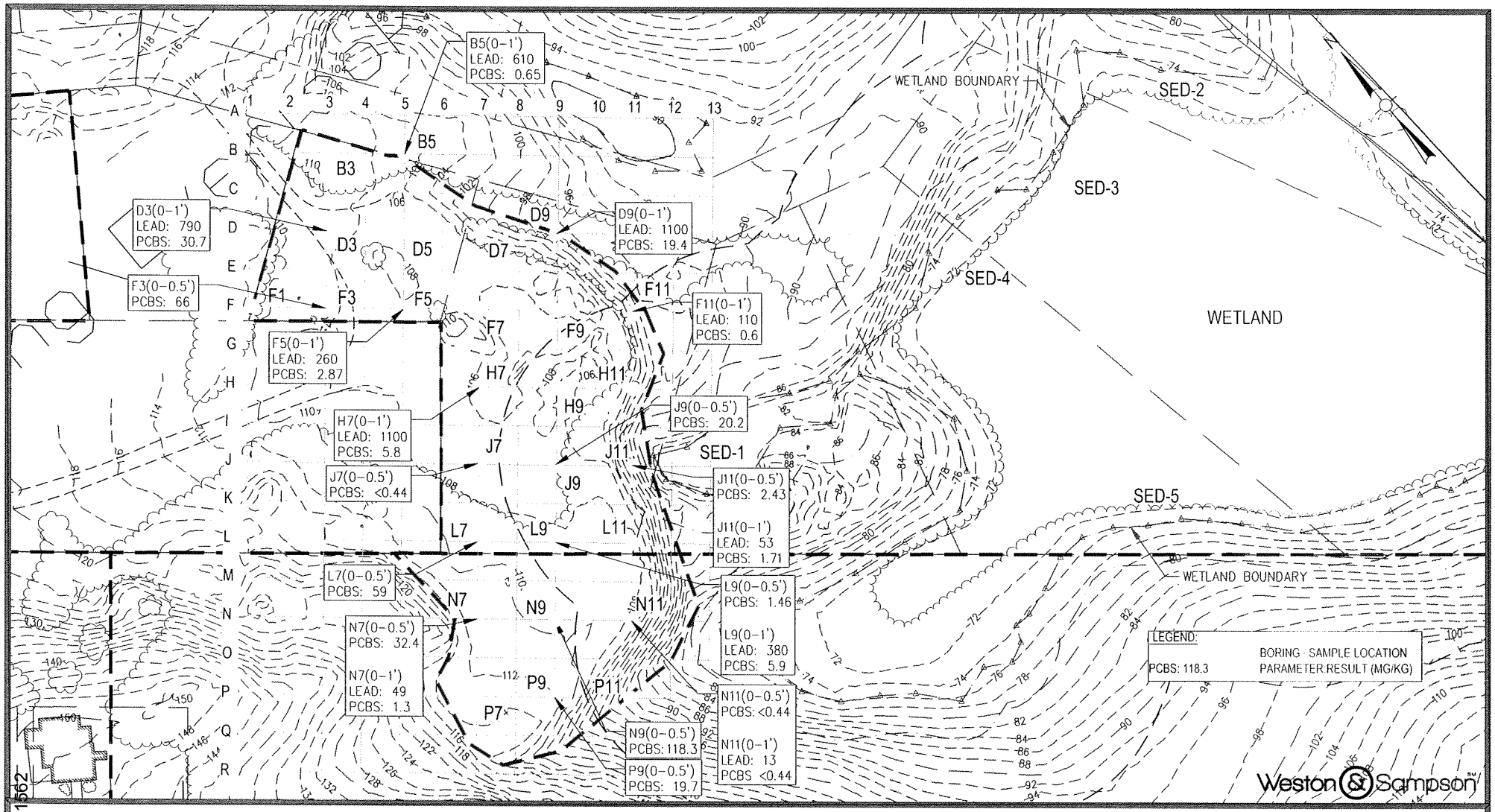


FIGURE 6
OVERLOOK ACRES
SALEM, MA

SAMPLING RESULTS - IMMINENT HAZARD EVALUATION

SCALE: 1"=60'

0 60 120

GCML/ OV. 001562

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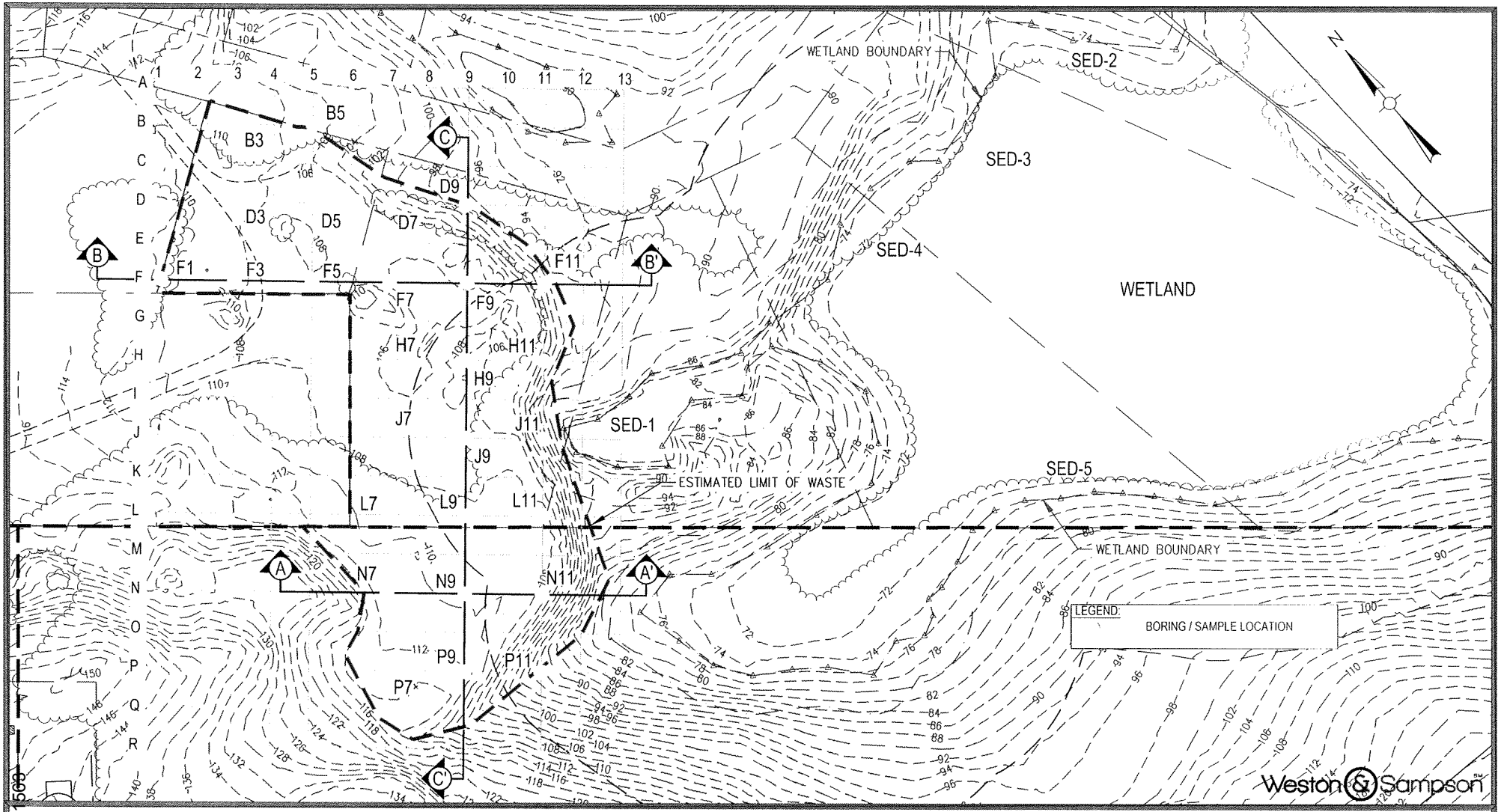


FIGURE 1
OVERLOOK ACRES
SALEM, MA
SITE PLAN
SCALE: 1"=60'

DRAFT

GCML/ OV. 001500

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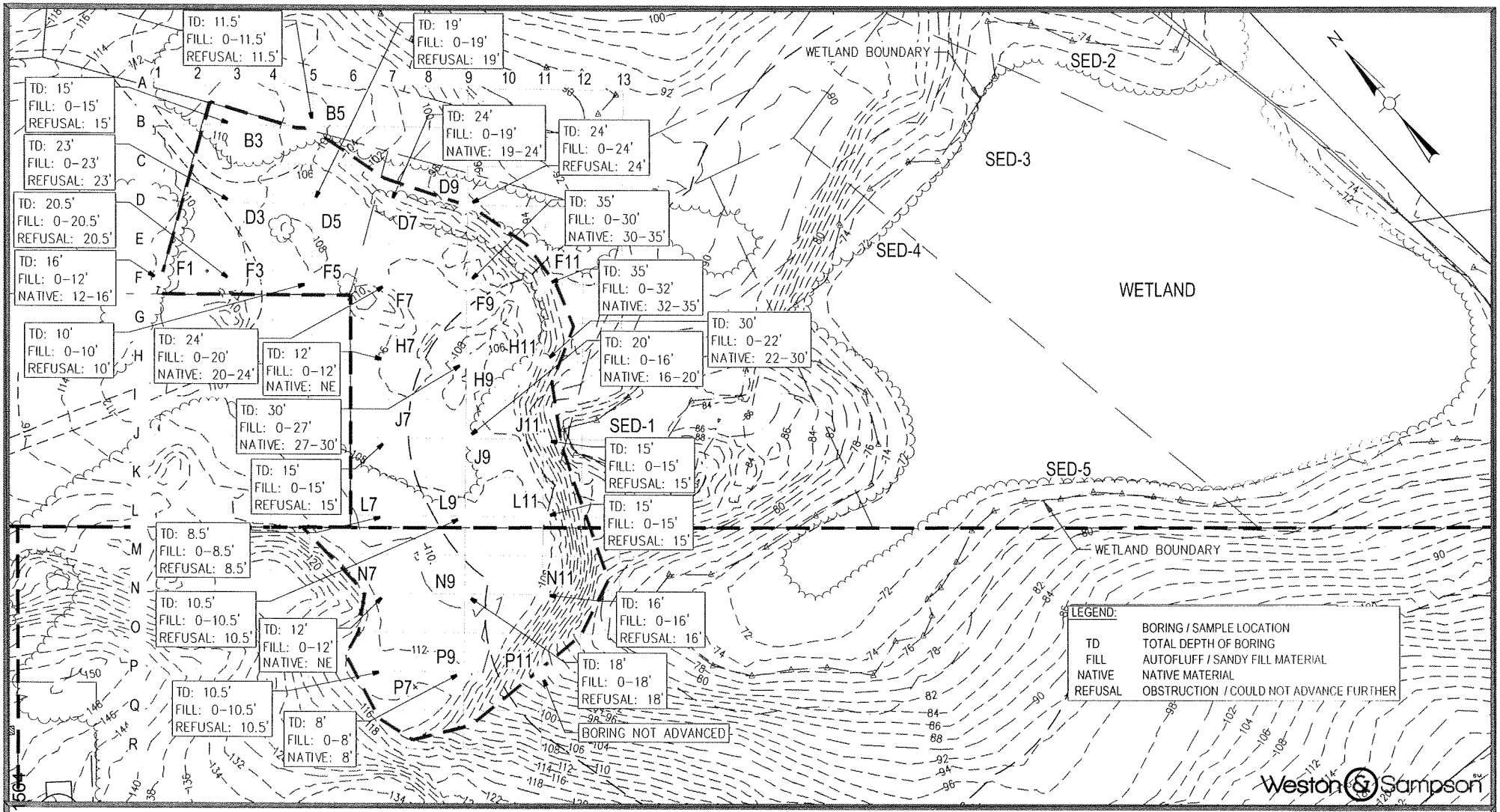


FIGURE 2
OVERLOOK ACRES
SALEM, MA
MATERIAL DEPTHS
SCALE: 1"=60'

0 60 120

DRAFT

GCML/ OV. 00156

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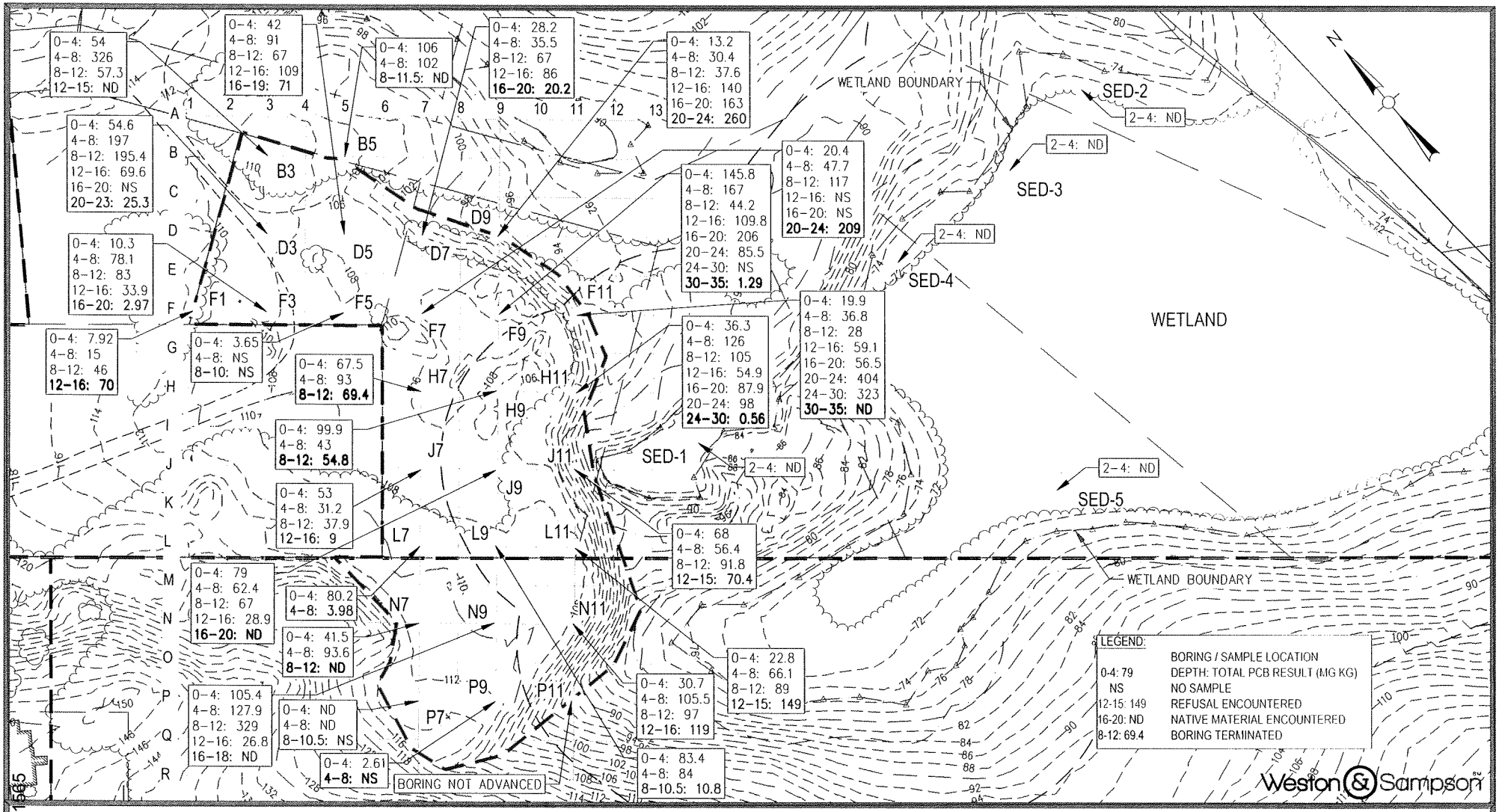


FIGURE 3
OVERLOOK ACRES
SALEM, MA

PCB SAMPLING RESULTS

SCALE: 1"=60'

0 60 120

DRAFT

GCML/ OV. 001565

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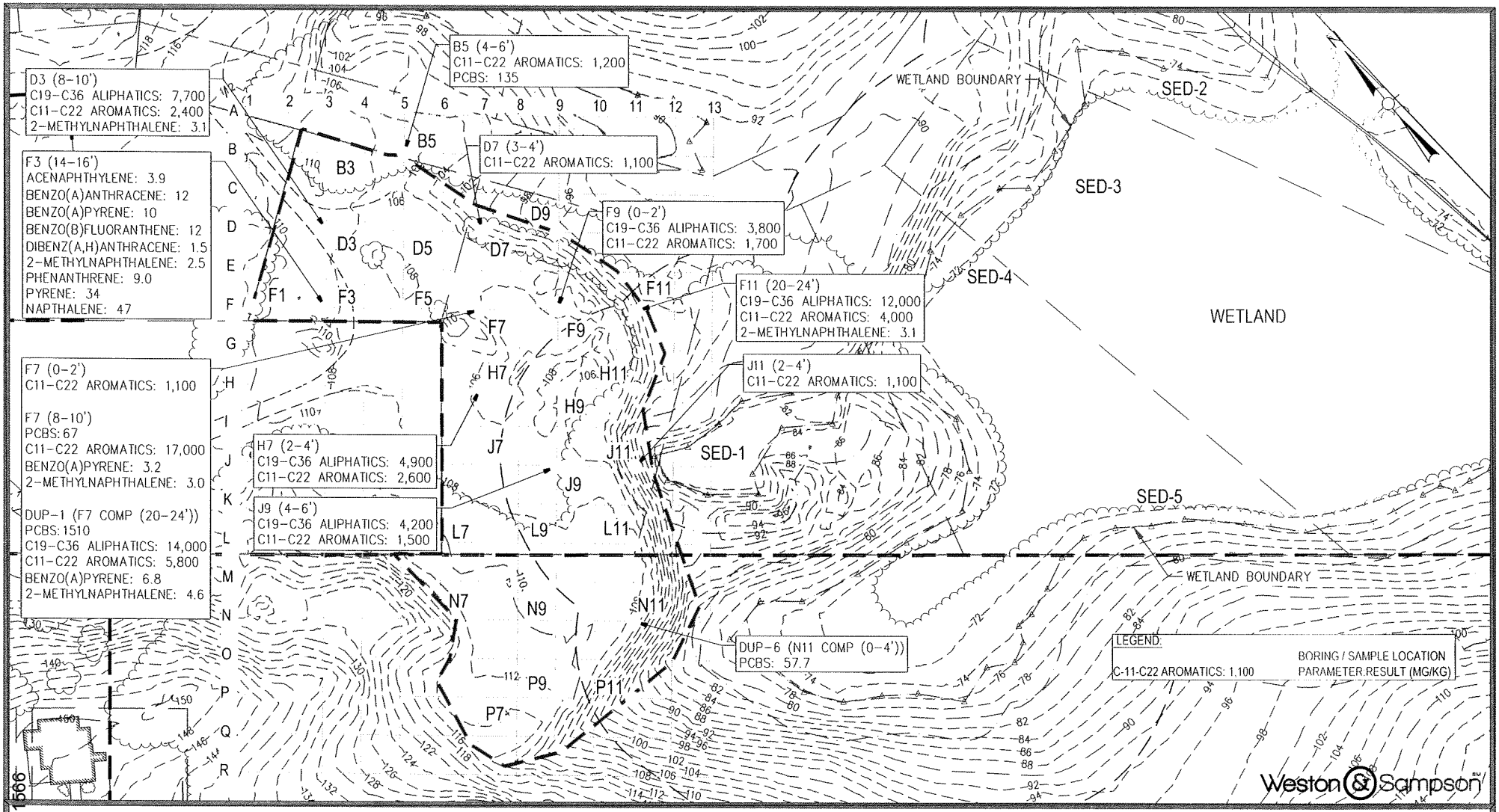


FIGURE 4
OVERLOOK ACRES
SALEM, MA

SAMPLING RESULTS - RCS-1 EXCEEDANCES (PCBS, EPH, & VOCS)

SCALE: 1"=60'

0 60 120

DRAFT

GCML/ OV. 001566

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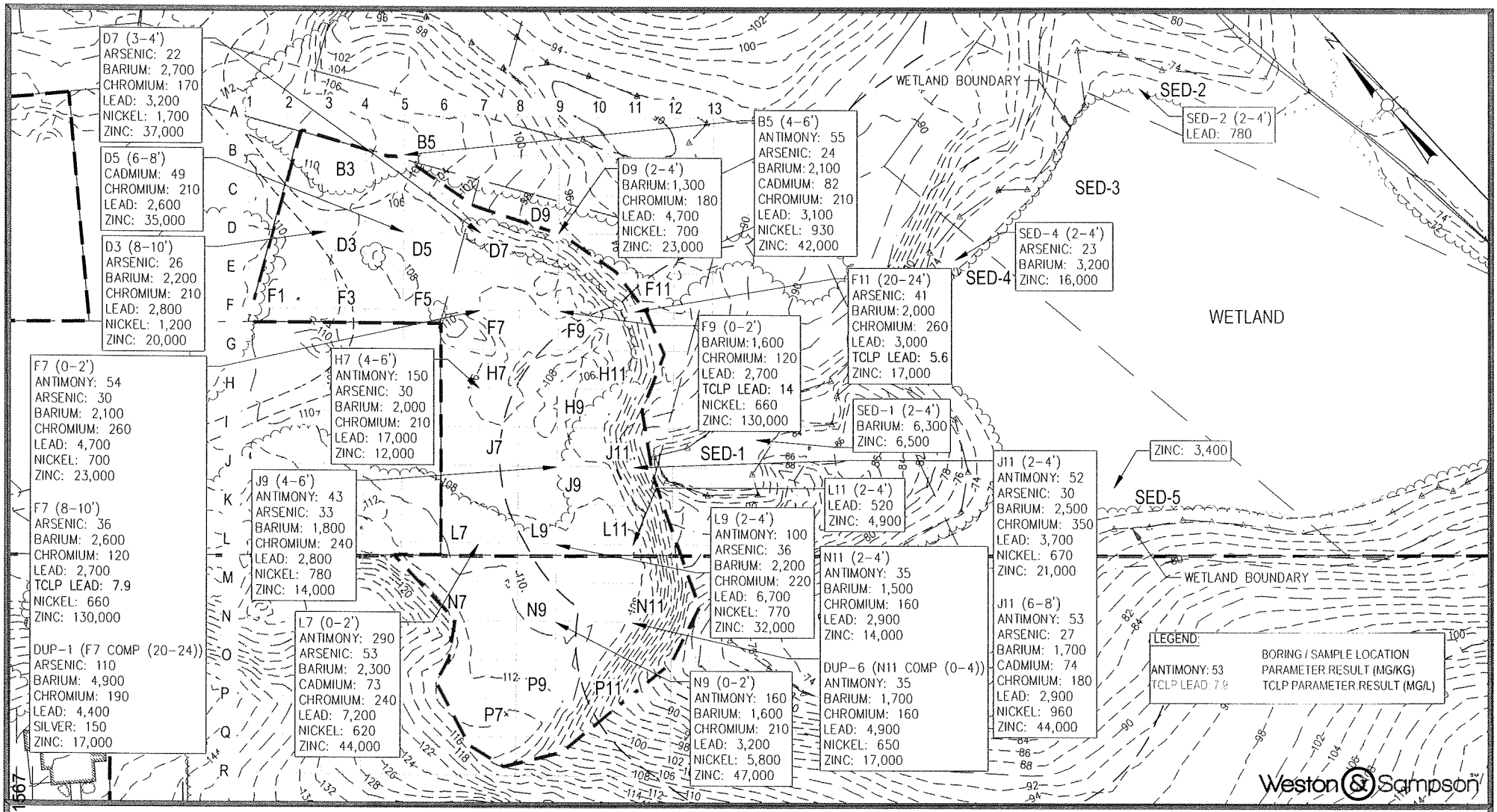


FIGURE 5
OVERLOOK ACRES
SALEM, MA

SAMPLING RESULTS - RCS-1 EXCEEDANCES (TOTAL METALS)

SCALE: 1"=60'

0 60 120

DRAFT

GCML/ OV. 001567

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TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCS)	SAMPLE ID (DEPTH) AND DATE									
		RCS 1	B3 Comp (0-4)	B3 Comp (4-8)	B3 Comp (8-12)	B3 Comp (12-15)	B5 Comp (0-4)	B5 Comp (4-8)	B5 Comp (8-11.5)	D3COMP (0-4)	D3 COMP (0-4) (DUP 4)	D3COMP (4-8)
			10/9/2020 0-4 Feet	10/9/2020 4-8 Feet	10/9/2020 8-12 Feet	10/9/2020 12-15 Feet	10/8/2020 0-4 Feet	10/9/2020 4-8 Feet	10/8/2020 8-11.5 Feet	10/9/2020 0-4 Feet	10/9/2020 0-4 Feet	10/9/2020 4-8 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 4.9	< 11	< 5.0	< 0.42	< 4.7	< 4.9	< 0.41	<4.7	< 4.8	< 4.5
PCB 1221	mg / Kg	1	< 4.9	< 11	< 5.0	< 0.42	< 4.7	< 4.9	< 0.41	<4.7	< 4.8	< 4.5
PCB 1232	mg / Kg	1	< 4.9	< 11	< 5.0	< 0.42	< 4.7	< 4.9	< 0.41	<4.7	< 4.8	< 4.5
PCB 1242	mg / Kg	1	< 4.9	< 11	< 5.0	< 0.42	< 4.7	< 4.9	< 0.41	<4.7	< 4.8	110
PCB 1248	mg / Kg	1	13	88	22	< 0.42	25	34	< 0.41	23	21	< 4.5
PCB 1254	mg / Kg	1	30	210	28	< 0.42	59	56	< 0.41	22	24	73
PCB 1260	mg / Kg	1	11	28	7.3	< 0.42	22	12	< 0.41	9.6	9.5	14
PCB 1262	mg / Kg	1	< 4.9	< 11	< 5.0	< 0.42	< 4.7	< 4.9	< 0.41	<4.7	< 4.8	< 4.5
PCB 1268	mg / Kg	1	< 4.9	< 11	< 5.0	< 0.42	< 4.7	< 4.9	< 0.41	<4.7	< 4.8	< 4.5
Total PCBs	mg / Kg	~	54	326	57.3	ND	106	102	ND	54.6	54.5	197
General Chemistry Parameters												
% Solids		~	81.2	72.4	80.7	94.7	85.6	81.2	97.3	80.3	81.8	82.1

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE = Non-detect parameter exceeds minimum laboratory reporting limit for applicable

VALUE = Parameter exceeds the minimum laboratory

VALUE = Parameter exceeds applicable regulatory criteria.

VALUE = Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001568

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	D3COMP (8-12)	D3COMP (12-16)	D3COMP (20-23)	D5COMP (0-4)	D5COMP (4-8)	D5COMP (8-12)	D5COMP (12-16)	D5COMP (16-19)	D7COMP (0-4)	D7COMP (0-4) Duplicate
			10/8/2020 8-12 Feet	10/8/2020 12-16 Feet	10/8/2020 20-23 Feet	10/8/2020 0-4 Feet	10/8/2020 4-8 Feet	10/8/2020 8-12 Feet	10/8/2020 12-16 Feet	10/8/2020 16-19 Feet	10/8/2020 0-4 Feet	10/8/2020 Dup Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 4.4	< 2.6	< 0.44	< 4.1	< 4.3	< 4.7	< 4.8	< 4.5	< 2.1	< 0.39
PCB 1221	mg / Kg	1	< 4.4	< 2.6	< 0.44	< 4.1	< 4.3	< 4.7	< 4.8	< 4.5	< 2.1	< 0.39
PCB 1232	mg / Kg	1	< 4.4	< 2.6	< 0.44	< 4.1	< 4.3	< 4.7	< 4.8	< 4.5	< 2.1	< 0.39
PCB 1242	mg / Kg	1	110	< 2.6	11	31	< 4.3	< 4.7	< 4.8	< 4.5	< 2.1	< 0.39
PCB 1248	mg / Kg	1	< 4.4	26	< 0.44	< 4.1	23	24	43	25	5.9	< 0.39
PCB 1254	mg / Kg	1	64	32	9.7	11	47	30	45	31	18	< 0.39
PCB 1260	mg / Kg	1	15	7.8	3.3	< 4.1	21	13	21	15	4.3	< 0.39
PCB 1262	mg / Kg	1	< 4.4	< 2.6	< 0.44	< 4.1	< 4.3	< 4.7	< 4.8	< 4.5	< 2.1	< 0.39
PCB 1268	mg / Kg	1	6.4	3.8	1.3	< 4.1	< 4.3	< 4.7	< 4.8	< 4.5	< 2.1	< 0.39
Total PCBs	mg / Kg	~	195.4	69.6	25.3	42	91	67	109	71	28.2	<0.39
General Chemistry Parameters												
% Solids		~	82.5	75.6	84.1	94.7	88.2	83.0	81.5	86.5	94.1	94.9

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE = Non-detect parameter exceeds minimum laboratory reporting limit for applicable

VALUE = Parameter exceeds the minimum laboratory

VALUE = Parameter exceeds applicable regulatory criteria.

VALUE = Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001569

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	D7COMP (4-8)	D7COMP (8-12)	D7COMP (12-16)	D7COMP (16-20)	D9COMP (0-4)	D9COMP (4-8)	D9COMP (8-12)	D9COMP (12-16)	D9COMP (16-20)	D9COMP (20-24)
			10/8/2020 4-8 Feet	10/8/2020 8-12 Feet	10/8/2020 12-16 Feet	10/8/2020 16-20 Feet	10/8/2020 0-4 Feet	10/8/2020 4-8 Feet	10/8/2020 8-12 Feet	10/8/2020 12-16 Feet	10/8/2020 16-20 Feet	10/8/2020 20-24 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 4.4	< 4.5	< 4.5	< 0.46	< 0.41	< 2.1	< 2.2	< 5.0	< 5.0	< 9.9
PCB 1221	mg / Kg	1	< 4.4	< 4.5	< 4.5	< 0.46	< 0.41	< 2.1	< 2.2	< 5.0	< 5.0	< 9.9
PCB 1232	mg / Kg	1	< 4.4	< 4.5	< 4.5	< 0.46	< 0.41	< 2.1	< 2.2	< 5.0	< 5.0	< 9.9
PCB 1242	mg / Kg	1	< 4.4	< 4.5	< 4.5	**7.1**	< 0.41	< 2.1	< 2.2	**81**	**110**	**190**
PCB 1248	mg / Kg	1	**11**	**24**	**30**	< 0.46	**2.8**	**7.1**	**14**	< 5.0	< 5.0	< 9.9
PCB 1254	mg / Kg	1	**16**	**31**	**41**	**9.3**	**7.2**	**16**	**15**	**40**	**42**	**35**
PCB 1260	mg / Kg	1	**8.5**	**12**	**15**	**3.8**	**3.2**	**7.3**	**5.6**	**19**	**11**	**17**
PCB 1262	mg / Kg	1	< 4.4	< 4.5	< 4.5	< 0.46	< 0.41	< 2.1	< 2.2	< 5.0	< 5.0	< 9.9
PCB 1268	mg / Kg	1	< 4.4	< 4.5	< 4.5	< 0.46	< 0.41	< 2.1	**3.0**	< 5.0	< 5.0	**18**
Total PCBs	mg / Kg	~	**35.5**	**67**	**86**	**20.2**	**13.2**	**30.4**	**37.6**	**140**	**163**	**260**
General Chemistry Parameters												
% Solids		~	90.5	87.0	81.3	82.9	94.9	92.7	92.0	79.3	78.2	80.3

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE = Non-detect parameter exceeds minimum laboratory reporting limit for applicable

VALUE = Parameter exceeds the minimum laboratory

VALUE = Parameter exceeds applicable regulatory criteria.

VALUE = Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001570

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCS)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	F1COMP (0-4)	F1 COMP (0-4) (DUP-3)	F1COMP (4-8)	F1COMP (8-12)	F1COMP (12-16)	F3COMP (0-4)	F3COMP (4-8)	F3COMP (8-12)	F3COMP (12-16)	F3 COMP (16-20)
			10/8/2020 0-4 Feet	10/8/2020 0-4 Feet	10/8/2020 4-8 Feet	10/8/2020 8-12 Feet	10/8/2020 12-16 Feet	10/8/2020 0-4 Feet	10/8/2020 4-8 Feet	10/8/2020 8-12 Feet	10/8/2020 12-16 Feet	10/8/2020 16-20 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 0.39	< 0.41	< 4.6	< 5.1	< 0.46	< 0.41	< 2.2	< 2.5	< 2.2	< 0.52
PCB 1221	mg / Kg	1	< 0.39	< 0.41	< 4.6	< 5.1	< 0.46	< 0.41	< 2.2	< 2.5	< 2.2	< 0.52
PCB 1232	mg / Kg	1	< 0.39	< 0.41	< 4.6	< 5.1	< 0.46	< 0.41	< 2.2	< 2.5	< 2.2	< 0.52
PCB 1242	mg / Kg	1	< 0.39	< 0.41	< 4.6	< 5.1	< 0.46	< 0.41	< 2.2	< 2.5	**22**	< 0.52
PCB 1248	mg / Kg	1	**1.9**	**2.0**	**13**	**25**	**5.2**	**2.1**	**26**	**45**	< 2.2	**0.70**
PCB 1254	mg / Kg	1	**3.8**	**4.5**	**22**	**33**	**8.1**	**5.5**	**36**	**28**	**8.4**	**1.6**
PCB 1260	mg / Kg	1	**1.7**	**1.0**	**11**	**12**	**1.7**	**1.7**	**13**	**10**	**3.5**	**0.67**
PCB 1262	mg / Kg	1	< 0.39	< 0.41	< 4.6	< 5.1	< 0.46	< 0.41	< 2.2	< 2.5	< 2.2	< 0.52
PCB 1268	mg / Kg	1	0.52	< 0.41	< 4.6	< 5.1	< 0.46	**1.0**	**3.1**	< 2.5	< 2.2	< 0.52
Total PCBs	mg / Kg	~	**7.92**	**7.5**	**46**	**70**	**15**	**10.3**	**78.1**	**83**	**33.9**	**2.97**
General Chemistry Parameters												
% Solids		~	**97.1**	**96.4**	**81.6**	**73.5**	**81.3**	**95.7**	**84.2**	**74.0**	**85.5**	**74.8**

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE	= Non-detect parameter exceeds minimum laboratory reporting limit for applicable
VALUE	= Parameter exceeds the minimum laboratory
VALUE	= Parameter exceeds applicable regulatory criteria.
VALUE	= Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001571

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	F5COMP (0-4)	F7 COMP (0-4)	F7 COMP (4-8)	F7 COMP (8-12)	F7 COMP (20-24)	F9 COMP (0-4)	F9 COMP (0-4) (DUP-2)	F9 COMP (4-8)	F9 COMP (8-12)	F9 COMP (12-16)
			10/8/2020 0-4 Feet	10/7/2020 0-4 Feet	10/7/2020 4-8 Feet	10/7/2020 8-12 Feet	10/7/2020 20-24 Feet	10/7/2020 0-4 Feet	10/7/2020 0-4 Feet	10/7/2020 4-8 Feet	10/7/2020 8-12 Feet	10/7/2020 12-16 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 0.40	< 0.43	< 2.4	< 6.9	< 9.4	< 4.9	< 5.1	< 9.7	< 2.4	< 5.2
PCB 1221	mg / Kg	1	< 0.40	< 0.43	< 2.4	< 6.9	< 9.4	< 4.9	< 5.1	< 9.7	< 2.4	< 5.2
PCB 1232	mg / Kg	1	< 0.40	< 0.43	< 2.4	< 6.9	< 9.4	< 4.9	< 5.1	< 9.7	< 2.4	< 5.2
PCB 1242	mg / Kg	1	< 0.40	< 0.43	< 2.4	**55**	**80**	< 4.9	< 5.1	**59**	< 2.4	< 5.2
PCB 1248	mg / Kg	1	**0.85**	**8.4**	**15**	< 6.9	< 9.4	**40**	**25**	< 9.7	**17**	**27**
PCB 1254	mg / Kg	1	**2.1**	**8.3**	**22**	**39**	**110**	**77**	**50**	**77**	**20**	**47**
PCB 1260	mg / Kg	1	**0.70**	**2.5**	**8.1**	**23**	**19**	**21**	**30**	**31**	**7.2**	**27**
PCB 1262	mg / Kg	1	< 0.40	< 0.43	< 2.4	< 6.9	< 9.4	< 4.9	< 5.1	< 9.7	< 2.4	< 5.2
PCB 1268	mg / Kg	1	< 0.40	**1.2**	**2.6**	< 6.9	< 9.4	**7.8**	**11**	< 9.7	< 2.4	**8.8**
Total PCBs	mg / Kg	~	**3.65**	**20.4**	**47.7**	**117**	**209**	**145.8**	**116**	**167**	**44.2**	**109.8**
General Chemistry Parameters												
% Solids		~	**95.3**	**93.1**	**83.8**	**55.8**	**78.6**	**80.8**	**78**	**82.1**	**82.6**	**76.7**

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE = Non-detect parameter exceeds minimum laboratory reporting limit for applicable

VALUE = Parameter exceeds the minimum laboratory

VALUE = Parameter exceeds applicable regulatory criteria.

VALUE = Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001572

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	F9 COMP (16-20)	F9 COMP (20-24)	F9 COMP (20-24) (DUP1)	F9 COMP (30-35)	F11 COMP (0-4)	F11 COMP (4-8)	F11 COMP (8-12)	F11 COMP (12-16)	F11 COMP (16-20)	F11 COMP (20-24)
			10/7/2020 16-20 Feet	10/7/2020 20-24 Feet	10/7/2020 20-24 Feet	10/7/2020 30-35 Feet	10/7/2020 0-4 Feet	10/7/2020 4-8 Feet	10/7/2020 8-12 Feet	10/7/2020 12-16 Feet	10/7/2020 16-20 Feet	10/7/2020 20-24 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 5.3	< 5.4	< 260	< 0.49	< 0.47	< 2.4	< 2.4	< 2.4	< 2.8	< 27
PCB 1221	mg / Kg	1	< 5.3	< 5.4	< 260	< 0.49	< 0.47	< 2.4	< 2.4	< 2.4	< 2.8	< 27
PCB 1232	mg / Kg	1	< 5.3	< 5.4	< 260	< 0.49	< 0.47	< 2.4	< 2.4	< 2.4	< 2.8	< 27
PCB 1242	mg / Kg	1	< 5.3	< 5.4	**1200**	< 0.49	< 0.47	< 2.4	< 2.4	< 2.4	< 2.8	**340**
PCB 1248	mg / Kg	1	**22**	**24**	< 260	**0.51**	**3.5**	**6.9**	**6.9**	**14**	**17**	< 27
PCB 1254	mg / Kg	1	**37**	**37**	< 260	**0.78**	**9.5**	**17**	**13**	**27**	**29**	**64**
PCB 1260	mg / Kg	1	**83**	**19**	**310**	< 0.49	**5.2**	**10**	**8.1**	**15**	7.5	< 27
PCB 1262	mg / Kg	1	< 5.3	< 5.4	< 260	< 0.49	< 0.47	< 2.4	< 2.4	< 2.4	< 2.8	< 27
PCB 1268	mg / Kg	1	**64**	5.5	< 260	< 0.49	**1.7**	**2.9**	< 2.4	**3.1**	3.0	< 27
Total PCBs	mg / Kg	~	**206**	**85.5**	**1510**	**1.29**	**19.9**	**36.8**	**28**	**59.1**	**56.5**	**404**
General Chemistry Parameters												
% Solids		~	**75.3**	**73.6**	**73.9**	**81.8**	**85.6**	**83.8**	**84.2**	**82.7**	**72.5**	**74.9**

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE	= Non-detect parameter exceeds minimum laboratory reporting limit for applicable
VALUE	= Parameter exceeds the minimum laboratory
VALUE	= Parameter exceeds applicable regulatory criteria.
VALUE	= Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001573

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	F11 COMP (24-30)	F11 COMP (30-35)	H7 COMP (0-4)	H7 COMP (4-8)	H7 COMP (8-12)	H9 COMP (0-4)	H9 COMP (4-8)	H9 COMP (8-12)	H9 COMP (12-16)	H9 COMP (16-20)
			10/7/2020 24-30 Feet	10/7/2020 30-35 Feet	10/6/2020 0-4 Feet	10/6/2020 4-8 Feet	10/6/2020 8-12 Feet	10/6/2020 0-4 Feet	10/6/2020 4-8 Feet	10/6/2020 8-12 Feet	10/6/2020 12-16 Feet	10/7/2020 16-20 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 30	< 0.51	< 4.8	< 5.1	< 5.3	< 5.0	< 2.3	< 2.5	< 5.5	< 5.4
PCB 1221	mg / Kg	1	< 30	< 0.51	< 4.8	< 5.1	< 5.3	< 5.0	< 2.3	< 2.5	< 5.5	< 5.4
PCB 1232	mg / Kg	1	< 30	< 0.51	< 4.8	< 5.1	< 5.3	< 5.0	< 2.3	< 2.5	< 5.5	< 5.4
PCB 1242	mg / Kg	1	**230**	< 0.51	< 4.8	< 5.1	40	< 5.0	< 2.3	< 2.5	< 5.5	< 5.4
PCB 1248	mg / Kg	1	< 30	< 0.51	**14**	**33**	< 5.3	**8.9**	**11**	**14**	20	**23**
PCB 1254	mg / Kg	1	**55**	< 0.51	**29**	**44**	20	**27**	**20**	**23**	22	**35**
PCB 1260	mg / Kg	1	**38**	< 0.51	**18**	**16**	9.4	**46**	**12**	**15**	17	**13**
PCB 1262	mg / Kg	1	< 30	< 0.51	< 4.8	< 5.1	< 5.3	< 5.0	< 2.3	< 2.5	< 5.5	< 5.4
PCB 1268	mg / Kg	1	< 30	< 0.51	**6.5**	< 5.1	< 5.3	**18**	< 2.3	**2.8**	< 5.5	< 5.4
Total PCBs	mg / Kg	~	**323**	ND	**67.5**	**93**	**69.4**	**99.9**	**43**	**54.8**	**59**	**71**
General Chemistry Parameters												
% Solids		~	66.1	77.9	83.2	77.9	75.3	80.5	88.9	77.8	73.1	73.6

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE = Non-detect parameter exceeds minimum laboratory reporting limit for applicable

VALUE = Parameter exceeds the minimum laboratory

VALUE = Parameter exceeds applicable regulatory criteria.

VALUE = Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001574

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCS)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	H9 COMP (20-24')	H9 COMP (24-30')	H11 COMP (0-4')	H11 COMP (4-8')	H11 COMP (8-12')	H11 COMP (12-16')	H11 COMP (16-20')	H11 COMP (20-24')	H11 COMP (24-30')	J7 COMP (0-4')
			10/6/2020 20-24 Feet	10/6/2020 24-30 Feet	10/6/2020 0-4 Feet	10/6/2020 4-8 Feet	10/6/2020 8-12 Feet	10/6/2020 12-16 Feet	10/6/2020 16-20 Feet	10/6/2020 20-24 Feet	10/6/2020 24-30 Feet	10/6/2020 0-4 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 0.61	< 0.48	< 2.3	< 9.6	< 8.9	< 2.7	< 5.1	< 5.0	< 0.52	< 4.6
PCB 1221	mg / Kg	1	< 0.61	< 0.48	< 2.3	< 9.6	< 8.9	< 2.7	< 5.1	< 5.0	< 0.52	< 4.6
PCB 1232	mg / Kg	1	< 0.61	< 0.48	< 2.3	< 9.6	< 8.9	< 2.7	< 5.1	< 5.0	< 0.52	< 4.6
PCB 1242	mg / Kg	1	< 0.61	< 0.48	< 2.3	< 9.6	< 8.9	< 2.7	< 5.1	< 5.0	< 0.52	< 4.6
PCB 1248	mg / Kg	1	**0.79**	< 0.48	**6.0**	**25**	**16**	**17**	**20**	**21**	< 0.52	**11**
PCB 1254	mg / Kg	1	**1.5**	< 0.48	**19**	**80**	**47**	**22**	**43**	**42**	0.56	**30**
PCB 1260	mg / Kg	1	< 0.61	< 0.48	**8.6**	**21**	**23**	**11**	**16**	**21**	< 0.52	**12**
PCB 1262	mg / Kg	1	< 0.61	< 0.48	< 2.3	< 9.6	< 8.9	< 2.7	< 5.1	< 5.0	< 0.52	< 4.6
PCB 1268	mg / Kg	1	< 0.61	< 0.48	**2.7**	< 9.6	**19**	**4.9**	**8.9**	**14**	< 0.52	< 4.6
Total PCBs	mg / Kg	~	**2.29**	ND	**36.3**	**126**	**105**	**54.9**	**87.9**	**98**	0.56	**53**
General Chemistry Parameters												
% Solids		~	**66.1**	**83.5**	**86.9**	**83.5**	**89.5**	**74.4**	**77.8**	**79.3**	**76.8**	**87.2**

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE	= Non-detect parameter exceeds minimum laboratory reporting limit for applicable
VALUE	= Parameter exceeds the minimum laboratory
VALUE	= Parameter exceeds applicable regulatory criteria.
VALUE	= Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001575

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	I7 COMP (4-8')	I7 COMP (8-12')	I7 COMP (12-15')	I9 COMP (0-4')	I9 COMP (4-8')	I9 COMP (8-12')	I9 COMP (12-16')	I9 COMP (16-20')	I11 COMP (0-4')	I11 COMP (4-8')
			10/6/2020 4-8 Feet	10/6/2020 8-12 Feet	10/6/2020 12-15 Feet	10/6/2020 0-4 Feet	10/6/2020 4-8 Feet	10/6/2020 8-12 Feet	10/6/2020 12-16 Feet	10/6/2020 16-20 Feet	10/5/2020 0-4 Feet	10/5/2020 4-8 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 2.4	< 2.6	< 0.46	< 5.0	< 5.1	< 5.1	< 2.5	< 0.084	< 4.6	< 2.3
PCB 1221	mg / Kg	1	< 2.4	< 2.6	< 0.46	< 5.0	< 5.1	< 5.1	< 2.5	< 0.084	< 4.6	< 2.3
PCB 1232	mg / Kg	1	< 2.4	< 2.6	< 0.46	< 5.0	< 5.1	< 5.1	< 2.5	< 0.084	< 4.6	< 2.3
PCB 1242	mg / Kg	1	< 2.4	< 2.6	< 0.46	< 5.0	< 5.1	< 5.1	< 2.5	< 0.084	**31**	< 2.3
PCB 1248	mg / Kg	1	**8.1**	**16**	**2.2**	**13**	**12**	**16**	**7.4**	< 0.084	< 4.6	**6.6**
PCB 1254	mg / Kg	1	**16**	**15**	**5.2**	**50**	**28**	**28**	**10**	< 0.084	**27**	**26**
PCB 1260	mg / Kg	1	**7.1**	**6.9**	**1.6**	**16**	**16**	**17**	**8.5**	< 0.084	**10**	**16**
PCB 1262	mg / Kg	1	< 2.4	< 2.6	< 0.46	< 5.0	< 5.1	< 5.1	< 2.5	< 0.084	< 4.6	< 2.3
PCB 1268	mg / Kg	1	< 2.4	< 2.6	< 0.46	< 5.0	**6.4**	**6.0**	**3.0**	< 0.084	< 4.6	**7.8**
Total PCBs	mg / Kg	~	**31.2**	**37.9**	9.0	**79**	**62.4**	**67**	**28.9**	ND	**68**	**56.4**
General Chemistry Parameters												
% Solids		~	83.2	76.1	86.4	79.4	77.9	78.3	81.4	95.5	87.6	85.4

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE = Non-detect parameter exceeds minimum laboratory reporting limit for applicable

VALUE = Parameter exceeds the minimum laboratory

VALUE = Parameter exceeds applicable regulatory criteria.

VALUE = Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001576

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	L11 COMP (8-12') 10/5/2020 8-12 Feet	L11 COMP (12-15') 10/5/2020 12-15 Feet	L7 COMP (0-4') 10/6/2020 0-4 Feet	L7 COMP (4-8') 10/6/2020 4-8 Feet	L9 COMP (0-4') 10/5/2020 0-4 Feet	L9 COMP (4-8') 10/5/2020 4-8 Feet	L9 COMP (8-10.5') 10/5/2020 8-10.5 Feet	L21 COMP (0-4') 10/6/2020 0-4 Feet	L21 COMP (4-8') 10/6/2020 4-8 Feet	L11COMP (8-12') 10/5/2020 8-12 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 2.5	< 2.5	< 4.7	< 0.083	< 4.7	< 5.0	< 0.99	< 0.86	< 4.5	< 4.7
PCB 1221	mg / Kg	1	< 2.5	< 2.5	< 4.7	< 0.083	< 4.7	< 5.0	< 0.99	< 0.86	< 4.5	< 4.7
PCB 1232	mg / Kg	1	< 2.5	< 2.5	< 4.7	< 0.083	< 4.7	< 5.0	< 0.99	< 0.86	< 4.5	< 4.7
PCB 1242	mg / Kg	1	< 2.5	< 2.5	< 4.7	< 0.083	< 4.7	< 5.0	< 0.99	< 0.86	< 4.5	< 4.7
PCB 1248	mg / Kg	1	**7.8**	**9.4**	**9.3**	**0.58**	**10**	**21**	**3.4**	**3.0**	**10**	**19**
PCB 1254	mg / Kg	1	**25**	**19**	**39**	**2.0**	**36**	**33**	**5.3**	**11**	**29**	**33**
PCB 1260	mg / Kg	1	**26**	**16**	**23**	**1.4**	**31**	**18**	**2.1**	**6.8**	**21**	**21**
PCB 1262	mg / Kg	1	< 2.5	< 2.5	< 4.7	< 0.083	< 4.7	< 5.0	< 0.99	< 0.86	< 4.5	< 4.7
PCB 1268	mg / Kg	1	**33**	**26**	**8.9**	< 0.083	**6.4**	**12**	< 0.99	**2.0**	6.1	**16**
Total PCBs	mg / Kg	~	**91.8**	**70.4**	**80.2**	**3.98**	**83.4**	**84**	**10.8**	**22.8**	**66.1**	**89**
General Chemistry Parameters												
% Solids		~	**78.9**	**79.4**	**84.8**	**96.4**	**84.6**	**79.4**	**80.8**	**91.6**	**89.8**	**84.4**

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE	= Non-detect parameter exceeds minimum laboratory reporting limit for applicable
VALUE	= Parameter exceeds the minimum laboratory
VALUE	= Parameter exceeds applicable regulatory criteria.
VALUE	= Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001577

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCS)	SAMPLE ID (DEPTH) AND DATE									
		RCS-1	L11 COMP (12-15')	N7 COMP (0-4')	N7 COMP (4-8')	N7 COMP (8-12')	N9 COMP (0-4')	N9 COMP (4-8')	N9 COMP (8-12')	N9 COMP (12-16')	N9 COMP (16-18')	N11 COMP (0-4')
			10/5/2020 12-15 Feet	10/6/2020 0-4 Feet	10/6/2020 4-8 Feet	10/6/2020 8-12 Feet	10/5/2020 0-4 Feet	10/5/2020 4-8 Feet	10/5/2020 8-12 Feet	10/5/2020 12-16 Feet	10/5/2020 16-18 Feet	10/5/2020 0-4 Feet
Polychlorinated Biphenyls (PCBs)												
PCB 1016	mg / Kg	1	< 4.9	< 2.3	< 4.6	< 0.081	< 4.9	< 5.3	< 20	< 2.2	< 0.083	< 2.3
PCB 1221	mg / Kg	1	< 4.9	< 2.3	< 4.6	< 0.081	< 4.9	< 5.3	< 20	< 2.2	< 0.083	< 2.3
PCB 1232	mg / Kg	1	< 4.9	< 2.3	< 4.6	< 0.081	< 4.9	< 5.3	< 20	< 2.2	< 0.083	< 2.3
PCB 1242	mg / Kg	1	< 4.9	< 2.3	< 4.6	< 0.081	< 4.9	< 5.3	< 20	< 2.2	< 0.083	< 2.3
PCB 1248	mg / Kg	1	**27**	**7.5**	**15**	< 0.081	**18**	**23**	**62**	**5.0**	< 0.083	**6.3**
PCB 1254	mg / Kg	1	**51**	**25**	**57**	< 0.081	**55**	**67**	**220**	**11**	< 0.083	**17**
PCB 1260	mg / Kg	1	**38**	**9.0**	**17**	< 0.081	**26**	**30**	**47**	**6.4**	< 0.083	**7.4**
PCB 1262	mg / Kg	1	< 4.9	< 2.3	< 4.6	< 0.081	< 4.9	< 5.3	< 20	< 2.2	< 0.083	< 2.3
PCB 1268	mg / Kg	1	**33**	< 2.3	**4.6**	< 0.081	**6.4**	**7.9**	< 20	**4.4**	< 0.083	< 2.3
Total PCBs	mg / Kg	~	**149**	**41.5**	**93.6**	ND	**105.4**	**127.9**	**329**	**26.8**	ND	**30.7**
General Chemistry Parameters												
% Solids		~	**81.9**	**88.2**	**87.6**	**98.5**	**81.5**	**75**	**77.9**	**88.4**	**95.9**	**85.3**

NOTES:
~ = No Method 1 Standard or UCL available

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VALUE = Parameter exceeds the minimum laboratory

VALUE = Parameter exceeds applicable regulatory criteria.

VALUE = Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001578

TABLE 1
SOIL ANALYTICAL RESULTS - COMPOSITE SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	SAMPLE ID (DEPTH) AND DATE						
		RCS-1	N11 COMP (0-4') (DUP-6)	N11 COMP (4-8')	N11 COMP (8-12')	N11 COMP (12-16')	P7 COMP (0-4')	P7 COMP (4-8')	P9 COMP (0-4')
			10/8/2020 0-4 Feet	10/7/2020 4-8 Feet	10/7/2020 8-12 Feet	10/7/2020 12-16 Feet	10/5/2020 0-4 Feet	10/5/2020 4-8 Feet	10/6/2020 0-4 Feet
Polychlorinated Biphenyls (PCBs)									
PCB 1016	mg / Kg	1	< 4.5	< 5.2	< 5.0	< 5.3	< 0.083	< 0.082	< 0.084
PCB 1221	mg / Kg	1	< 4.5	< 5.2	< 5.0	< 5.3	< 0.083	< 0.082	< 0.084
PCB 1232	mg / Kg	1	< 4.5	< 5.2	< 5.0	< 5.3	< 0.083	< 0.082	< 0.084
PCB 1242	mg / Kg	1	< 4.5	< 5.2	< 5.0	< 5.3	< 0.083	< 0.082	< 0.084
PCB 1248	mg / Kg	1	**17**	**19**	**18**	**37**	< 0.083	< 0.082	**0.44**
PCB 1254	mg / Kg	1	**31**	**53**	**49**	**58**	< 0.083	< 0.082	**1.3**
PCB 1260	mg / Kg	1	**9.7**	**24**	**24**	**24**	< 0.083	< 0.082	**0.67**
PCB 1262	mg / Kg	1	< 4.5	< 5.2	< 5.0	< 5.3	< 0.083	< 0.082	< 0.084
PCB 1268	mg / Kg	1	< 4.5	**9.5**	**6.0**	< 5.3	< 0.083	< 0.082	**0.20**
Total PCBs	mg / Kg	~	**57.7**	**105.5**	**97**	**119**	ND	ND	**2.61**
General Chemistry Parameters									
% Solids		~	**89.5**	**77.5**	**79.9**	**76**	**96.9**	**97.9**	**95.5**

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE	= Non-detect parameter exceeds minimum laboratory reporting limit for applicable
VALUE	= Parameter exceeds the minimum laboratory
VALUE	= Parameter exceeds applicable regulatory criteria.
VALUE	= Total PCBs greater than 25 mg / Kg.

ABBREVIATIONS
ND = Not detected.
NT = Not tested

DRAFT

GCML/ OV. 001579

DRAFT

TABLE 2
SOIL ANALYTICAL RESULTS - GRAB SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	TCLP Limits	SAMPLE ID (DEPTH) & DATE											
		RCS-1	TCLP	B5 (4-6) 10/7/2020 Collected	B3 (8-10) 10/8/2020 Collected	B3 (22-23) 10/8/2020 Collected	B5 (6-8) 10/7/2020 Collected	B7 (3-4) 10/8/2020 Collected	B7 (22-23) 10/8/2020 Collected	B8 (2-4) 10/8/2020 Collected	F3 (14-16) 10/7/2020 Collected	F1 (0-2) 10/7/2020 Collected	F7 (8-10) 10/7/2020 Collected	F7 COMP (0-20) (DUP-1) 10/7/2020 Collected	C9(0-2) 10/7/2020 Collected
MADEP EPH															
C9-C18 ALIPHATICS	mg / Kg	1000	~	96	580	< 11	280	100	< 10	< 53	24	90	590	840	170
C19-C36 ALIPHATICS	mg / Kg	3000	~	2100	7700	19	3100	2300	17	690	250	2000	2000	14000	3800
C11-C22 AROMATICS	mg / Kg	1000	~	1200	2400	< 11	2100	1100	< 10	340	280	1100	17000	5800	1700
ACENAPHTHENE	mg / Kg	4	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	2.2	< 0.55	< 0.68	0.87	< 0.49
ACENAPHTHYLENE	mg / Kg	1	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	3.9	< 0.55	< 0.68	< 0.54	< 0.49
ANTHRACENE	mg / Kg	1000	~	< 0.61	0.68	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	7.5	< 0.55	< 0.68	2.3	< 0.49
BENZO(A)ANTHRACENE	mg / Kg	7	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	12	< 0.55	< 0.68	< 0.54	< 0.49
BENZO(A)PYRENE	mg / Kg	2	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	10	1.9	3.2	6.8	< 0.49
BENZO(B)FLUORANTHENE	mg / Kg	7	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	12	< 0.55	< 0.68	< 0.54	< 0.49
BENZO(G,H,I)PERYLENE	mg / Kg	1000	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	6.1	< 0.55	< 0.68	< 0.54	0.80
BENZO(K)FLUORANTHENE	mg / Kg	70	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	4.5	< 0.55	< 0.68	< 0.54	< 0.49
CHRYSENE	mg / Kg	70	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	11	< 0.55	4.6	< 0.54	< 0.49
DIBENZ(A,H)ANTHRACENE	mg / Kg	0.7	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	1.5	< 0.55	< 0.68	< 0.54	< 0.49
FLUORANTHENE	mg / Kg	1000	~	1.4	2.9	< 0.11	1.5	< 0.48	< 0.10	< 0.53	33	1.2	4.1	6.4	1.8
FLUORENE	mg / Kg	1000	~	0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	5.3	< 0.55	0.96	1.9	< 0.49
INDENO(1,2,3-CD)PYRENE	mg / Kg	7	~	< 0.61	< 0.63	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	6.7	< 0.55	< 0.68	< 0.54	< 0.49
2-METHYLNAPHTHALENE	mg / Kg	0.7	~	< 0.61	3.1	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	2.5	< 0.55	3.0	4.6	< 0.49
NAPHTHALENE	mg / Kg	4	~	< 0.61	1.9	< 0.11	< 0.44	< 0.48	< 0.10	< 0.53	9.0	< 0.55	0.76	3.8	< 0.49
PHENANTHRENE	mg / Kg	10	~	< 0.61	3.2	< 0.11	1.0	< 0.48	< 0.10	< 0.53	34	0.67	2.6	< 0.54	0.71
PYRENE	mg / Kg	1000	~	0.81	3.4	< 0.11	2.3	0.83	< 0.10	< 0.53	30	1.1	7.9	7.2	6.0
Total Metals															
ANTIMONY	mg / Kg	20	~	55	< 2.1	< 1.9	< 1.9	< 2.0	< 1.8	< 1.8	< 1.9	54	< 2.2	< 2.2	< 2.2
ARSENIC	mg / Kg	20	100	24	26	< 3.7	31	22	< 3.6	14	5.9	30	36	110	18
BARIUM	mg / Kg	1000	2000	2100	2200	14	1700	2700	30	1300	110	2100	2600	4900	1600
BERYLLIUM	mg / Kg	90	~	< 0.20	< 0.21	0.37	0.27	< 0.20	0.36	0.33	0.63	< 0.18	< 0.22	< 0.22	0.25
CADMIUM	mg / Kg	70	20	82	56	< 0.37	49	50	< 0.36	31	0.89	55	57	66	45
CHROMIUM	mg / Kg	100	100	210	210	3.7	210	170	4.4	120	18	180	260	190	120
LEAD	mg / Kg	200	100	3100	2800	13	2600	3200	11	1500	200	4700	3800	4400	2700
MERCURY	mg / Kg	20	4	1.6	1.1	< 0.028	1.3	11	< 0.027	1.5	0.18	1.2	2.8	0.99	1.4
NICKEL	mg / Kg	600	~	930	1200	5.2	530	1700	5.3	340	17	700	1700	360	660
SELENIUM	mg / Kg	400	20	< 4.1	< 42	< 3.7	< 39	< 40	< 3.6	< 36	< 3.8	< 3.7	< 4.5	< 4.4	< 4.3
SILVER	mg / Kg	100	100	5.9	9.5	0.73	8.4	7.7	0.60	6.1	1.8	3.7	2.8	150	2.7
THALLIUM	mg / Kg	8	~	< 2.0	< 21	< 1.9	< 19	< 20	< 1.8	< 18	< 1.9	< 1.8	< 2.2	< 2.2	< 2.2
VANADIUM	mg / Kg	400	~	38	39	17	35	29	15	37	31	31	68	22	24
ZINC	mg / Kg	1000	~	42000	20000	63	35000	37000	52	18000	370	23000	26000	17000	130000
Polychlorinated Biphenyls (PCBs)															
PCB 1016	mg / Kg		~	< 4.9	NT	NT	NT	NT	NT	NT	NT	NT	< 5.3	< 260	NT
PCB 1221	mg / Kg	1	~	< 4.9	NT	NT	NT	NT	NT	NT	NT	NT	< 5.3	< 260	NT
PCB 1232	mg / Kg	1	~	< 4.9	NT	NT	NT	NT	NT	NT	NT	NT	< 5.3	< 260	NT
PCB 1242	mg / Kg	1	~	< 4.9	NT	NT	NT	NT	NT	NT	NT	NT	32	1200	NT
PCB 1248	mg / Kg	1	~	38	NT	NT	NT	NT	NT	NT	NT	NT	< 5.3	< 260	NT
PCB 1254	mg / Kg	1	~	80	NT	NT	NT	NT	NT	NT	NT	NT	24	< 260	NT
PCB 1260	mg / Kg	1	~	17	NT	NT	NT	NT	NT	NT	NT	NT	11	310	NT
PCB 1262	mg / Kg	1	~	< 4.9	NT	NT	NT	NT	NT	NT	NT	NT	< 5.3	< 260	NT
PCB 1268	mg / Kg	1	~	< 4.9	NT	NT	NT	NT	NT	NT	NT	NT	< 5.3	< 260	NT
Total PCBs	mg / Kg	~	~	135	NT	NT	NT	NT	NT	NT	NT	NT	67	1510	NT
Volatile Organic Compounds (VOCs)															
ACETONE	mg / Kg	6	~	< 0.17	< 6.5	< 0.070	< 0.11	< 0.13	< 0.072	< 0.075	< 53	< 0.098	< 6.0	< 4.2	< 4.4
TERT-AMYL METHYL ETHER	mg / Kg	~	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
BENZENE	mg / Kg	2	10	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
BROMOBENZENE	mg / Kg	100	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
BROMOCHLOROMETHANE	mg / Kg	~	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
BROMODICHLOROMETHANE	mg / Kg	0.1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
BROMOFORM	mg / Kg	0.1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
BROMOMETHANE	mg / Kg	0.5	~	< 0.017	< 0.65	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 5.3	< 0.0098	< 0.24	< 0.17	< 0.18
2-BUTANONE (MEK)	mg / Kg	4	4000	< 0.067	< 2.6	< 0.028	< 0.043	< 0.050	< 0.029	< 0.030	< 21	< 0.039	< 2.4	< 1.7	< 1.8
N-BUTYLBENZENE	mg / Kg	~	~	< 0.0034	0.31	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	0.28	0.16	< 0.088
SEC-BUTYLBENZENE	mg / Kg	~	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
TERT-BUTYLBENZENE	mg / Kg	100	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
TERT-BUTYLETHYL ETHER	mg / Kg	~	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
CARBON DISULFIDE	mg / Kg	100	~	< 0.010	< 1.3	< 0.0042	< 0.0065	< 0.0075	< 0.0043	< 0.0045	< 11	< 0.0059	< 1.2	< 0.84	< 0.88
CARBON TETRACHLORIDE	mg / Kg	5	10	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
CHLOROBENZENE	mg / Kg	1	2000	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
CHLORODIBROMOMETHANE	mg / Kg	0.005	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
CHLOROETHANE	mg / Kg	100	~	< 0.017	< 0.26	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 2.1	< 0.0098	< 0.24	< 0.17	< 0.18

GCML/ OV. 001580

DRAFT

TABLE 2
SOIL ANALYTICAL RESULTS - GRAB SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	TCLP Limits	SAMPLE ID [DEPTH] & DATE											
		RCS-1	TCLP	B5 (4-6) 10/6/2020	B6 (8-10) 10/6/2020	B11(22-23) 10/6/2020	B5 (6-8) 10/6/2020	B7 (3-4) 10/6/2020	B7 (22-23) 10/6/2020	B9 (2-4) 10/6/2020	B11 (14-16) 10/6/2020	F7 (0-2) 10/6/2020	F7(8-10) 10/6/2020	F7 COMP (0-24) (Dup. 1) 10/6/2020	F9(0-2) 10/6/2020
CHLOROFORM	mg / Kg	0.2	120	< 0.0067	< 0.26	< 0.0028	< 0.0043	< 0.0050	< 0.0029	< 0.0030	< 2.1	< 0.0039	< 0.24	< 0.17	< 0.18
CHLOROMETHANE	mg / Kg	100	~	< 0.017	< 0.26	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 2.1	< 0.0098	< 0.24	< 0.17	< 0.18
2-CHLOROTOLUENE	mg / Kg	100	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
4-CHLOROTOLUENE	mg / Kg	100	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,2-DIBROMO-3-CHLOROPROPANE	mg / Kg	10	~	< 0.0034	< 0.52	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 4.2	< 0.0020	< 0.48	< 0.34	< 0.35
1,2-DIBROMOETHANE (EDB)	mg / Kg	0.1	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
DIBROMOMETHANE	mg / Kg	500	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,2-DICHLOROBENZENE	mg / Kg	9	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,3-DICHLOROBENZENE	mg / Kg	3	~	< 0.0034	0.14	< 0.0014	0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,4-DICHLOROBENZENE	mg / Kg	0.7	150	< 0.0034	0.45	< 0.0014	0.0023	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	0.085	< 0.088
DICHLORODIFLUOROMETHANE	mg / Kg	1000	~	< 0.017	< 0.26	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 2.1	< 0.0098	< 0.24	< 0.17	< 0.18
1,1-DICHLOROETHANE	mg / Kg	0.4	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,2-DICHLOROETHANE	mg / Kg	0.1	10	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,1-DICHLOROETHYLENE	mg / Kg	3	14	< 0.0067	< 0.13	< 0.0028	< 0.0043	< 0.0050	< 0.0029	< 0.0030	< 1.1	< 0.0039	< 0.12	< 0.084	< 0.088
CIS-1,2-DICHLOROETHYLENE	mg / Kg	0.1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
TRANS-1,2-DICHLOROETHYLENE	mg / Kg	1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,2-DICHLOROPROPANE	mg / Kg	0.1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,3-DICHLOROPROPANE	mg / Kg	500	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
2,2-DICHLOROPROPANE	mg / Kg	0.1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,1-DICHLOROPROPENE	mg / Kg	0.01	~	< 0.0034	< 0.26	< 0.0014	< 0.0022	< 0.0050	< 0.0029	< 0.0030	< 2.1	< 0.0020	< 0.24	< 0.17	< 0.18
CIS-1,3-DICHLOROPROPENE	mg / Kg	0.01	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
TRANS-1,3-DICHLOROPROPENE	mg / Kg	0.01	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
DIETHYL ETHER	mg / Kg	100	~	< 0.017	< 0.26	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 2.1	< 0.0098	< 0.24	< 0.17	< 0.18
DIISOPROPYL ETHER	mg / Kg	100	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
1,4-DIOXANE	mg / Kg	0.2	~	< 0.17	< 6.5	< 0.070	< 0.11	< 0.13	< 0.072	< 0.075	< 53	< 0.098	< 6.0	< 4.2	< 4.4
ETHYLBENZENE	mg / Kg	40	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
HEXACHLOROBUTADIENE	mg / Kg	30	10	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
2-HEXANONE	mg / Kg	100	~	< 0.034	< 1.3	< 0.014	< 0.022	< 0.025	< 0.014	< 0.015	< 11	< 0.020	< 1.2	< 0.84	< 0.88
ISOPROPYLBENZENE	mg / Kg	1000	~	< 0.0034	0.19	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	0.47	0.17	< 0.088
P-ISOPROPYLTOLUENE	mg / Kg	100	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	0.10	< 0.088
METHYL TERT-BUTYL ETHER (MTBE)	mg / Kg	0.1	~	< 0.0067	< 0.13	< 0.0028	< 0.0043	< 0.0050	< 0.0029	< 0.0030	< 1.1	< 0.0039	< 0.12	< 0.084	< 0.088
METHYLENE CHLORIDE	mg / Kg	0.1	~	< 0.017	< 0.65	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 5.3	< 0.0098	< 0.60	< 0.42	< 0.44
4-METHYL-2-PENTANONE (MIBK)	mg / Kg	0.4	~	< 0.034	< 1.3	< 0.014	< 0.022	< 0.025	< 0.014	< 0.015	< 11	< 0.020	< 1.2	< 0.84	< 0.88
NAPHTHALENE	mg / Kg	4	~	< 0.0067	1.4	< 0.0028	< 0.0043	< 0.0050	< 0.0029	< 0.0030	47	< 0.0039	0.73	1.6	< 0.18
N-PROPYLBENZENE	mg / Kg	100	~	< 0.0034	0.35	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	0.33	0.19	< 0.088
STYRENE	mg / Kg	3	~	< 0.0034	0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,1,1,2-TETRACHLOROETHANE	mg / Kg	0.1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,1,2,2-TETRACHLOROETHANE	mg / Kg	0.005	~	< 0.0017	< 0.065	< 0.00070	< 0.0011	< 0.0013	< 0.00072	< 0.00075	< 0.53	< 0.00098	< 0.060	< 0.042	< 0.044
TETRACHLOROETHYLENE	mg / Kg	1	14	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
TETRAHYDROFURAN	mg / Kg	500	~	< 0.017	< 0.52	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 4.2	< 0.0098	< 0.48	< 0.34	< 0.35
TOLUENE	mg / Kg	30	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,2,3-TRICHLOROBENZENE	mg / Kg	~	~	< 0.0034	< 0.52	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 4.2	< 0.0020	< 0.48	< 0.34	< 0.35
1,2,4-TRICHLOROBENZENE	mg / Kg	2	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,1,1-TRICHLOROETHANE	mg / Kg	30	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
1,1,2-TRICHLOROETHANE	mg / Kg	0.1	~	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
TRICHLOROETHYLENE	mg / Kg	0.3	10	< 0.0034	< 0.13	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	< 0.084	< 0.088
TRICHLOROFLUOROMETHANE	mg / Kg	1000	~	< 0.017	0.46	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 2.1	< 0.0098	< 0.24	< 0.17	< 0.18
1,2,3-TRICHLOROPROPANE	mg / Kg	100	~	< 0.0034	< 0.26	< 0.0014	< 0.0022	< 0.0050	< 0.0029	< 0.0030	< 2.1	< 0.0020	< 0.24	< 0.17	< 0.18
1,2,4-TRIMETHYLBENZENE	mg / Kg	1000	~	< 0.0034	2.3	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	1.9	1.4	< 0.088
1,3,5-TRIMETHYLBENZENE	mg / Kg	10	~	< 0.0034	0.62	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	< 0.12	0.27	< 0.088
VINYL CHLORIDE	mg / Kg	0.7	4	< 0.017	< 0.26	< 0.0070	< 0.011	< 0.013	< 0.0072	< 0.0075	< 2.1	< 0.0098	< 0.24	< 0.17	< 0.18
M/P-XYLENE	mg / Kg	100	~	< 0.0067	1.2	< 0.0028	< 0.0043	< 0.0050	< 0.0029	< 0.0030	< 2.1	< 0.0039	0.41	0.81	< 0.18
O-XYLENE	mg / Kg	100	~	< 0.0034	0.23	< 0.0014	< 0.0022	< 0.0025	< 0.0014	< 0.0015	< 1.1	< 0.0020	0.26	0.63	< 0.088
Total VOCs	mg / Kg	~	~	ND	7.78	ND	0.0045	ND	ND		47	ND	4.38	5.415	ND
General Chemistry															
% Solids	% Weight	~	~	81.9	78.5	89.3	85.0	83.2	93.3	92.6	86.7	90.4	73.9	73.9	77.9

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE	= Non-detect parameter exceeds minimum laboratory reporting limit for applicable regulatory criteria.
VALUE	= Parameter exceeds the minimum laboratory reporting limit.
VALUE	= Parameter exceeds applicable regulatory criteria.

ABBREVIATIONS:
ND = Not detected.
NT = Not tested

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TABLE 2
SOIL ANALYTICAL RESULTS - GRAB SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	TCLP Limits	SAMPLE ID (DEPTH) & DATE											
		RCS-1	TCLP	F11(20-24) 10/7/2020 20-24 Feet	H7 (2-4) 10/9/2020 2-4 Feet	H9 (29-30') 10/8/2020 29-30 Feet	J9 (4-6) 10/9/2020 4-6 Feet	J11 (2-4) 10/5/2020 2-4 Feet	J11 (6-8) 10/8/2020 6-8 Feet	L7 (0-2) 10/9/2020 0-2 Feet	L9 (2-4) 10/9/2020 2-4 Feet	L11 (0-2) 10/9/2020 0-2 Feet	N9 (0-2) 10/9/2020 0-2 Feet	N11 COMP (0-4) (DUP-6) 10/9/2020 2-4 Feet	N11 (2-4) 10/9/2020 2-4 Feet
MADEP EPH															
C9-C18 ALIPHATICS	mg / Kg	1000	~	**680**	**220**	< 12	**200**	**72**	< 64	**69**	**83**	< 21	**67**	< 56	66
C19-C36 ALIPHATICS	mg / Kg	3000	~	**12000**	**4900**	< 12	**4200**	**1800**	**1400**	**1600**	**1700**	**380**	**1600**	**1100**	**1300**
C11-C22 AROMATICS	mg / Kg	1000	~	**4100**	**2600**	< 12	**1500**	**1100**	**780**	**700**	**850**	**170**	**740**	**590**	**860**
ACENAPHTHENE	mg / Kg	4	~	**0.70**	< 0.61	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
ACENAPHTHYLENE	mg / Kg	1	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
ANTHRACENE	mg / Kg	1000	~	**1.6**	**1.1**	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
BENZO(A)ANTHRACENE	mg / Kg	7	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	**0.91**	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
BENZO(A)PYRENE	mg / Kg	2	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	**0.75**	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
BENZO(B)FLUORANTHENE	mg / Kg	7	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	**2.2**	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
BENZO(G,H,I)PERYLENE	mg / Kg	1000	~	< 0.62	< 0.61	< 0.12	**1.2**	**1.9**	**1.1**	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
BENZO(K)FLUORANTHENE	mg / Kg	70	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
CHRYSENE	mg / Kg	70	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
DIBENZ(A,H)ANTHRACENE	mg / Kg	0.7	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
FLUORANTHENE	mg / Kg	1000	~	**5.4**	**2.5**	< 0.12	**1.1**	**1.6**	**2.1**	< 0.60	**1.3**	< 0.21	**1.3**	< 0.56	1.5
FLUORENE	mg / Kg	1000	~	**2.0**	< 0.61	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
INDENO(1,2,3-CD)PYRENE	mg / Kg	7	~	< 0.62	< 0.61	< 0.12	< 0.64	< 0.51	**1.1**	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
2-METHYLNAPHTHALENE	mg / Kg	0.7	~	**3.1**	< 0.61	< 0.12	**0.65**	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
NAPHTHALENE	mg / Kg	4	~	**2.9**	< 0.61	< 0.12	< 0.64	< 0.51	< 0.64	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
PHENANTHRENE	mg / Kg	10	~	**5.9**	**1.3**	< 0.12	**1.0**	< 0.51	**0.64**	< 0.60	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
PYRENE	mg / Kg	1000	~	**4.8**	**2.9**	< 0.12	**1.7**	**2.7**	**2.2**	**0.62**	< 0.59	< 0.21	< 0.63	< 0.56	< 0.45
Total Metals															
ANTIMONY	mg / Kg	20	~	< 2.1	**150**	< 2.0	**43**	**52**	**53**	**290**	**100**	**16**	**160**	**35**	**35**
ARSENIC	mg / Kg	20	100	**41**	**30**	< 3.9	**33**	**30**	**27**	**53**	**36**	< 3.4	**19**	**18**	**18**
BARIUM	mg / Kg	1000	2000	**2000**	**2000**	**340**	**1800**	2500	**1700**	2300	2200	**520**	**1600**	**1700**	**1500**
BERYLLIUM	mg / Kg	90	~	< 0.21	< 0.20	**0.38**	< 0.22	**0.35**	**0.27**	< 0.20	< 0.19	**0.27**	< 0.21	**0.21**	**0.27**
CADMIUM	mg / Kg	70	20	56	58	< 0.39	52	65	74	73	69	**5.7**	51	41	**38**
CHROMIUM	mg / Kg	100	100	260	210	**2.2**	240	350	180	240	220	**30**	210	160	160
LEAD	mg / Kg	200	100	3000	17000	**9.7**	2800	3700	2900	7200	6700	520	3200	4900	**2900**
MERCURY	mg / Kg	20	4	**0.56**	**1.0**	< 0.029	**1.5**	**2.4**	**1.5**	**1.9**	**1.5**	**0.28**	**1.5**	**1.5**	1.5
NICKEL	mg / Kg	600	~	**510**	**500**	**3.2**	**780**	**670**	**960**	**620**	**770**	220	**5800**	**650**	**400**
SELENIUM	mg / Kg	400	20	< 4.2	< 4.1	< 3.9	< 4.3	< 4.2	< 4.2	< 4.0	< 3.9	< 3.4	< 4.2	< 3.6	< 3.7
SILVER	mg / Kg	100	100	**2.8**	**7.7**	< 0.39	**4.1**	**4.6**	**3.5**	**4.5**	**4.5**	**0.68**	**3.9**	**4.6**	**3.1**
THALLIUM	mg / Kg	8	~	< 2.1	< 2.0	< 2.0	< 2.2	< 2.1	< 2.1	< 2.0	< 1.9	< 1.7	< 2.1	< 1.8	< 1.8
VANADIUM	mg / Kg	400	~	**26**	**27**	**90**	**20**	**28**	**23**	**27**	**22**	**53**	**20**	**27**	**30**
ZINC	mg / Kg	1000	~	**17000**	**12000**	**100**	**14000**	**21000**	**44000**	**22000**	**32000**	**4900**	**47000**	**17000**	**14000**
Polychlorinated Biphenyls (PCBs)															
PCB 1016	mg / Kg		~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 4.5	NT
PCB 1221	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 4.5	NT
PCB 1232	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 4.5	NT
PCB 1242	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 4.5	NT
PCB 1248	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**17**	NT
PCB 1254	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**31**	NT
PCB 1260	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**9.7**	NT
PCB 1262	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 4.5	NT
PCB 1268	mg / Kg	1	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 4.5	NT
Total PCBs	mg / Kg	~	~	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**57.7**	NT
Volatile Organic Compounds (VOCs)															
ACETONE	mg / Kg	6	~	< 4.3	< 0.13	< 0.063	< 0.13	< 0.22	< 0.11	< 0.14	< 0.13	< 0.077	< 0.14	< 0.092	< 0.092
TERT-AMYL METHYL ETHER	mg / Kg	~	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
BENZENE	mg / Kg	2	10	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
BROMOBENZENE	mg / Kg	100	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
BROMOCHLOROMETHANE	mg / Kg	~	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
BROMODICHLOROMETHANE	mg / Kg	0.1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
BROMOFORM	mg / Kg	0.1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
BROMOMETHANE	mg / Kg	0.5	~	< 0.17	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
2-BUTANONE (MEK)	mg / Kg	4	4000	< 1.7	< 0.050	< 0.025	< 0.051	< 0.090	< 0.046	< 0.057	< 0.051	< 0.031	< 0.057	< 0.037	< 0.037
N-BUTYLBENZENE	mg / Kg	~	~	**0.30**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
SEC-BUTYLBENZENE	mg / Kg	~	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
TERT-BUTYLBENZENE	mg / Kg	100	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
TERT-BUTYLETHYL ETHER	mg / Kg	~	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
CARBON DISULFIDE	mg / Kg	100	~	< 0.86	< 0.0076	< 0.0038	< 0.0076	< 0.013	< 0.0068	< 0.0086	< 0.0076	< 0.0046	< 0.0085	< 0.0055	< 0.0055
CARBON TETRACHLORIDE	mg / Kg	5	10	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
CHLOROBENZENE	mg / Kg	1	2000	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
CHLORODIBROMOMETHANE	mg / Kg	0.005	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
CHLOROETHANE	mg / Kg	100	~	< 0.17	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092

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TABLE 2
SOIL ANALYTICAL RESULTS - GRAB SAMPLES
OVERLOOK ACRES
SALEM, MA

Parameters	Units	Reportable Concentrations (RCs)	TCLP Limits	SAMPLE ID (DEPTH) & DATE											
				L11 (20-24)	L7 (2-4)	L5 (28-30)	J5 (4-6)	J11 (2-4)	L12 (6-8)	L7 (0-2)	L9 (2-4)	L11 (0-2)	N5 (0-2)	N1 COMP (0-4) (0-6")	N1 (2-4)
		RCS-1	TCLP	10/7/2020 (2-4 feet)	10/7/2020 (2-4 feet)	10/7/2020 (28-30 feet)	10/7/2020 (4-6 feet)	10/7/2020 (2-4 feet)	10/7/2020 (6-8 feet)	10/7/2020 (0-2 feet)	10/7/2020 (2-4 feet)	10/7/2020 (0-2 feet)	10/7/2020 (0-2 feet)	10/7/2020 (0-4 feet)	10/7/2020 (2-4 feet)
CHLOROFORM	mg / Kg	0.2	120	< 0.17	< 0.0050	< 0.0025	< 0.0051	< 0.0090	< 0.0046	< 0.0057	< 0.0051	< 0.0031	< 0.0057	< 0.0037	< 0.0037
CHLOROMETHANE	mg / Kg	100	~	< 0.17	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
2-CHLOROTOLUENE	mg / Kg	100	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
4-CHLOROTOLUENE	mg / Kg	100	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2-DIBROMO-3-CHLOROPROPANE	mg / Kg	10	~	< 0.34	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2-DIBROMOETHANE (EDB)	mg / Kg	0.1	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
DIBROMOMETHANE	mg / Kg	500	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2-DICHLOROBENZENE	mg / Kg	9	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,3-DICHLOROBENZENE	mg / Kg	3	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,4-DICHLOROBENZENE	mg / Kg	0.7	150	**0.15**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
DICHLORODIFLUOROMETHANE	mg / Kg	1000	~	< 0.17	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
1,1-DICHLOROETHANE	mg / Kg	0.4	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2-DICHLOROETHANE	mg / Kg	0.1	10	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,1-DICHLOROETHYLENE	mg / Kg	3	14	< 0.086	< 0.0050	< 0.0025	< 0.0051	< 0.0090	< 0.0046	< 0.0057	< 0.0051	< 0.0031	< 0.0057	< 0.0037	< 0.0037
CIS-1,2-DICHLOROETHYLENE	mg / Kg	0.1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
TRANS-1,2-DICHLOROETHYLENE	mg / Kg	1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2-DICHLOROPROPANE	mg / Kg	0.1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,3-DICHLOROPROPANE	mg / Kg	500	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
2,2-DICHLOROPROPANE	mg / Kg	0.1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,1-DICHLOROPROPENE	mg / Kg	0.01	~	< 0.17	< 0.0025	< 0.0025	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
CIS-1,3-DICHLOROPROPENE	mg / Kg	0.01	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
TRANS-1,3-DICHLOROPROPENE	mg / Kg	0.01	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
DIETHYL ETHER	mg / Kg	100	~	< 0.17	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
DIISOPROPYL ETHER	mg / Kg	100	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
1,4-DIOXANE	mg / Kg	0.2	~	< 4.3	< 0.13	< 0.063	< 0.13	< 0.22	< 0.11	< 0.14	< 0.13	< 0.077	< 0.14	< 0.092	< 0.092
ETHYLBENZENE	mg / Kg	40	~	**0.15**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
HEXACHLOROBUTADIENE	mg / Kg	30	10	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
2-HEXANONE	mg / Kg	100	~	< 0.86	< 0.025	< 0.013	< 0.025	< 0.045	< 0.023	< 0.029	< 0.025	< 0.015	< 0.028	< 0.018	< 0.018
ISOPROPYLBENZENE	mg / Kg	1000	~	**0.30**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
P-ISOPROPYLTOLUENE	mg / Kg	100	~	**0.21**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
METHYL TERT-BUTYL ETHER (MTBE)	mg / Kg	0.1	~	< 0.086	< 0.0050	< 0.0025	< 0.0051	< 0.0090	< 0.0046	< 0.0057	< 0.0051	< 0.0031	< 0.0057	< 0.0037	< 0.0037
METHYLENE CHLORIDE	mg / Kg	0.1	~	< 0.43	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
4-METHYL-2-PENTANONE (MIBK)	mg / Kg	0.4	~	< 0.86	< 0.025	< 0.013	< 0.025	< 0.045	< 0.023	< 0.029	< 0.025	< 0.015	< 0.028	< 0.018	< 0.018
NAPHTHALENE	mg / Kg	4	~	**2.4**	< 0.0050	< 0.0025	< 0.0051	< 0.0090	< 0.0046	< 0.0057	< 0.0051	< 0.0031	< 0.0057	< 0.0037	< 0.0037
N-PROPYLBENZENE	mg / Kg	100	~	**0.34**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
STYRENE	mg / Kg	3	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,1,1,2-TETRACHLOROETHANE	mg / Kg	0.1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,1,2,2-TETRACHLOROETHANE	mg / Kg	0.005	~	< 0.043	< 0.0013	< 0.00063	< 0.0013	< 0.0022	< 0.0011	< 0.0014	< 0.0013	< 0.00077	< 0.0014	< 0.00092	< 0.00092
TETRACHLOROETHYLENE	mg / Kg	1	14	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
TETRAHYDROFURAN	mg / Kg	500	~	< 0.34	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
TOLUENE	mg / Kg	30	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2,3-TRICHLOROBENZENE	mg / Kg	~	~	< 0.34	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2,4-TRICHLOROBENZENE	mg / Kg	2	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,1,1-TRICHLOROETHANE	mg / Kg	30	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,1,2-TRICHLOROETHANE	mg / Kg	0.1	~	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
TRICHLOROETHYLENE	mg / Kg	0.3	10	< 0.086	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
TRICHLOROFLUOROMETHANE	mg / Kg	1000	~	< 0.17	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
1,2,3-TRICHLOROPROPANE	mg / Kg	100	~	< 0.17	< 0.0025	< 0.0025	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,2,4-TRIMETHYLBENZENE	mg / Kg	1000	~	**2.5**	**0.011**	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
1,3,5-TRIMETHYLBENZENE	mg / Kg	10	~	**0.53**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
VINYL CHLORIDE	mg / Kg	0.7	4	< 0.17	< 0.013	< 0.0063	< 0.013	< 0.022	< 0.011	< 0.014	< 0.013	< 0.0077	< 0.014	< 0.0092	< 0.0092
M/P-XYLENE	mg / Kg	100	~	**1.5**	< 0.0050	< 0.0025	< 0.0051	< 0.0090	< 0.0046	< 0.0057	< 0.0051	< 0.0031	< 0.0057	< 0.0037	< 0.0037
O-XYLENE	mg / Kg	100	~	**1.1**	< 0.0025	< 0.0013	< 0.0025	< 0.0045	< 0.0023	< 0.0029	< 0.0025	< 0.0015	< 0.0028	< 0.0018	< 0.0018
Total VOCs	mg / Kg	~	~	**9.48**	**0.011**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Chemistry															
% Solids	% Weight	~	~	79.8	82.4	82.9	78.3	78.0	78.7	83.7	85.4	95.4	79.3	89.5	89.2

NOTES:
~ = No Method 1 Standard or UCL available

< VALUE	= Non-detect parameter exceeds minimum laboratory reporting
VALUE	= Parameter exceeds the minimum laboratory reporting limit.
VALUE	= Parameter exceeds applicable regulatory criteria.

ABBREVIATIONS:
ND = Not detected.
NT = Not tested

GCML/ OV. 001583

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TABLE 3
SEDIMENT ANALYTICAL RESULTS
OVERLOOK ACRES
SALEM, MA

Parameter	Units	MA Sediment Criteria	TCLP Limits	SAMPLE ID, DATE, AND DEPTH				
				SED-1	SED-2	SED-3	SED-4	SED-5
			TCLP	10/8/2020 2-4 Feet	10/8/2020 2-4 Feet	10/8/2020 2-4 Feet	10/8/2020 2-4 Feet	10/7/2020 2-4 Feet
MADEP EPH								
C9-C18 ALIPHATICS	mg / Kg	~	~	< 19	< 84	< 18	< 53	< 48
C19-C36 ALIPHATICS	mg / Kg	~	~	**50**	< 84	**29**	**75**	130
C11-C22 AROMATICS	mg / Kg	~	~	**55**	**110**	**40**	**84**	**170**
ACENAPHTHENE	mg / Kg	0.0067*	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
ACENAPHTHYLENE	mg / Kg	0.0059*	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
ANTHRACENE	mg / Kg	0.057	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
BENZO(A)ANTHRACENE	mg / Kg	0.110	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
BENZO(A)PYRENE	mg / Kg	0.150	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
BENZO(B)FLUORANTHENE	mg / Kg	~	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
BENZO(G,H,I)PERYLENE	mg / Kg	0.17*	~	< 0.19	< 0.84	< 0.18	< 0.53	**2.0**
BENZO(K)FLUORANTHENE	mg / Kg	0.24*	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
CHRYSENE	mg / Kg	0.170	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
DIBENZ(A,H)ANTHRACENE	mg / Kg	0.033	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
FLUORANTHENE	mg / Kg	0.420	~	< 0.19	0.85	< 0.18	< 0.53	< 0.48
FLUORENE	mg / Kg	0.077	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
INDENO(1,2,3-CD)PYRENE	mg / Kg	0.017*	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
2-METHYLNAPHTHALENE	mg / Kg	0.0202*	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
NAPHTHALENE	mg / Kg	0.180	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
PHENANTHRENE	mg / Kg	0.200	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
PYRENE	mg / Kg	0.200	~	< 0.19	< 0.84	< 0.18	< 0.53	< 0.48
Total PAHs	mg / Kg	1.61*	~	ND	**0.85**	ND	ND	**2.0**
Total Metals								
ANTIMONY	mg / Kg	2*	~	< 3.2	< 14	< 2.9	< 8.3	< 8.0
ARSENIC	mg / Kg	33	100	**19**	< 29	< 5.9	**23**	< 16
BARIUM	mg / Kg	~	2000	**6300**	**660**	**40**	**3200**	220
BERYLLIUM	mg / Kg	~	~	< 0.32	< 1.4	**0.59**	< 0.83	0.82
CADMIUM	mg / Kg	5.0	20	**19**	< 2.9	< 0.59	**45**	**14**
CHROMIUM	mg / Kg	110	100	< 1.3	**14**	**10**	< 3.3	**11**
LEAD	mg / Kg	130	100	**79**	**780**	**56**	**37**	99
MERCURY	mg / Kg	0.18	4	**0.060**	0.42	**0.11**	< 0.13	0.16
NICKEL	mg / Kg	49	~	140	**45**	**8.3**	**300**	**140**
SELENIUM	mg / Kg	2*	20	< 63	< 29	< 5.9	< 17	< 16
SILVER	mg / Kg	1.0*	100	**11**	< 2.9	**1.5**	**2.3**	< 1.6
THALLIUM	mg / Kg	~	~	< 32	< 14	< 2.9	< 8.3	< 8.0
VANADIUM	mg / Kg	~	~	**28**	**87**	**47**	**3.6**	**76**
ZINC	mg / Kg	460	~	**6500**	590	**72**	**16000**	**3400**
Polychlorinated Biphenyls (PCBs)								
PCB 1016	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1221	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1232	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1242	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1248	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1254	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1260	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1262	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
PCB 1268	mg / Kg	~	~	< 0.74	< 3.1	< 0.72	< 2.1	< 1.9
Total PCBs	mg / Kg	0.060	~	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)								
ACETONE	mg / Kg	~	~	< 15	< 40	**0.38**	< 0.35	< 17
TERT-AMYL METHYL ETHER	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
BENZENE	mg / Kg	~	10	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
BROMOBENZENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
BROMOCHLOROMETHANE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
BROMODICHLOROMETHANE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
BROMOFORM	mg / Kg	0.654*	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
BROMOMETHANE	mg / Kg	~	~	< 1.5	< 4.0	< 0.016	< 0.035	< 0.66
2-BUTANONE (MEK)	mg / Kg	~	4000	< 5.9	< 16	< 0.065	< 0.14	< 6.6
N-BUTYLBENZENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
SEC-BUTYLBENZENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
TERT-BUTYLBENZENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
TERT-BUTYLETHYL ETHER	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
CARBON DISULFIDE	mg / Kg	0.000851*	~	< 2.9	< 8.0	< 0.0098	**0.023**	< 3.3
CARBON TETRACHLORIDE	mg / Kg	0.0642*	10	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
CHLOROBENZENE	mg / Kg	0.00842*	2000	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
CHLORODIBROMOMETHANE	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
CHLOROETHANE	mg / Kg	~	~	< 0.59	< 1.6	< 0.016	< 0.035	< 0.66

GCML/ OV. 001584

TABLE 3
SEDIMENT ANALYTICAL RESULTS
OVERLOOK ACRES
SALEM, MA

Parameter	Units	MA Sediment Criteria	TCLP Limits	SAMPLE ID, DATE, AND DEPTH				
				SED-1	SED-2	SED-3	SED-4	SED-5
			TCLP	10/6/2020 0-2 Feet	10/8/2020 2-4 Feet	10/8/2020 4-6 Feet	10/6/2020 ~4 Feet	10/6/2020 0-2 Feet
CHLOROFORM	mg / Kg	~	120	< 0.59	< 1.6	< 0.0065	< 0.014	< 0.66
CHLOROMETHANE	mg / Kg	~	~	< 0.59	< 1.6	< 0.016	< 0.035	< 0.66
2-CHLOROTOLUENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
4-CHLOROTOLUENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,2-DIBROMO-3-CHLOROPROPANE	mg / Kg	~	~	< 1.2	< 3.2	< 0.0033	< 0.0070	< 1.3
1,2-DIBROMOETHANE (EDB)	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
DIBROMOMETHANE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,2-DICHLOROBENZENE	mg / Kg	0.0165*	~	**< 0.29**	**< 0.80**	< 0.0033	< 0.0070	< 0.33
1,3-DICHLOROBENZENE	mg / Kg	4.43*	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,4-DICHLOROBENZENE	mg / Kg	0.599*	150	< 0.29	**< 0.80**	< 0.0033	< 0.0070	< 0.33
DICHLORODIFLUOROMETHANE	mg / Kg	~	~	< 0.59	< 1.6	< 0.016	< 0.035	< 0.66
1,1-DICHLOROETHANE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,2-DICHLOROETHANE	mg / Kg	~	10	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,1-DICHLOROETHYLENE	mg / Kg	0.031*	14	**< 0.29**	**< 0.80**	< 0.0065	< 0.014	< 0.33
CIS-1,2-DICHLOROETHYLENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
TRANS-1,2-DICHLOROETHYLENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,2-DICHLOROPROPANE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,3-DICHLOROPROPANE	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
2,2-DICHLOROPROPANE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,1-DICHLOROPROPENE	mg / Kg	~	~	< 0.59	< 1.6	< 0.0033	< 0.0070	< 0.66
CIS-1,3-DICHLOROPROPENE	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
TRANS-1,3-DICHLOROPROPENE	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
DIETHYL ETHER	mg / Kg	~	~	< 0.59	< 1.6	< 0.016	< 0.035	< 0.66
DIISOPROPYL ETHER	mg / Kg	~	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
1,4-DIOXANE	mg / Kg	~	~	< 15	< 40	< 0.16	< 0.35	< 17
ETHYLBENZENE	mg / Kg	1.1*	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
HEXACHLOROBUTADIENE	mg / Kg	~	10	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
2-HEXANONE	mg / Kg	~	~	< 2.9	< 8.0	< 0.033	< 0.070	< 3.3
ISOPROPYLBENZENE	mg / Kg	0.086*	~	**< 0.29**	**< 0.80**	< 0.0033	< 0.0070	< 0.33
P-ISOPROPYLTOLUENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
METHYL TERT-BUTYL ETHER (MTBE)	mg / Kg	~	~	< 0.29	< 0.80	< 0.0065	< 0.014	< 0.33
METHYLENE CHLORIDE	mg / Kg	~	~	< 1.5	< 4.0	< 0.016	< 0.035	< 1.7
4-METHYL-2-PENTANONE (MIBK)	mg / Kg	~	~	< 2.9	< 8.0	< 0.033	< 0.070	< 3.3
NAPHTHALENE	mg / Kg	~	~	< 0.59	< 1.6	< 0.0065	< 0.014	< 0.66
N-PROPYLBENZENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
STYRENE	mg / Kg	0.559*	~	< 0.29	**< 0.80**	< 0.0033	< 0.0070	< 0.33
1,1,1,2-TETRACHLOROETHANE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,1,2,2-TETRACHLOROETHANE	mg / Kg	1.36*	~	< 0.15	< 0.40	< 0.0016	< 0.0035	< 0.17
TETRACHLOROETHYLENE	mg / Kg	0.468*	14	< 0.29	**< 0.80**	< 0.0033	< 0.0070	< 0.33
TETRAHYDROFURAN	mg / Kg	~	~	< 1.2	< 3.2	< 0.016	< 0.035	< 1.3
TOLUENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,2,3-TRICHLOROBENZENE	mg / Kg	~	~	< 1.2	< 3.2	< 0.0033	< 0.0070	< 1.3
1,2,4-TRICHLOROBENZENE	mg / Kg	2.1*	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,1,1-TRICHLOROETHANE	mg / Kg	0.0302*	~	**< 0.29**	**< 0.80**	< 0.0033	< 0.0070	< 0.33
1,1,2-TRICHLOROETHANE	mg / Kg	1.24*	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
TRICHLOROETHYLENE	mg / Kg	0.0969*	10	**< 0.29**	**< 0.80**	< 0.0033	< 0.0070	< 0.33
TRICHLOROFLUOROMETHANE	mg / Kg	~	~	< 0.59	< 1.6	< 0.016	< 0.035	< 0.66
1,2,3-TRICHLOROPROPANE	mg / Kg	~	~	< 0.59	< 1.6	< 0.0033	< 0.0070	< 0.66
1,2,4-TRIMETHYLBENZENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
1,3,5-TRIMETHYLBENZENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
VINYL CHLORIDE	mg / Kg	~	4	< 0.59	< 1.6	< 0.016	< 0.035	< 0.66
M/P-XYLENE	mg / Kg	0.0252*	~	< 0.59	< 1.6	< 0.0065	< 0.014	< 0.66
O-XYLENE	mg / Kg	~	~	< 0.29	< 0.80	< 0.0033	< 0.0070	< 0.33
Total VOCs	mg / Kg	~	~	ND	ND	**0.38**	**0.023**	ND
General Chemistry								
% Solids	% Weight	~	~	**52.1**	**11.7**	**54.8**	**19.0**	20.8

NOTES:

~ = No Method 1 Standard or UCL available

* EPA Region 3 Sediment Benchmark

< VALUE = Non-detect parameter exceeds minimum laboratory reporting limit for applicable regulatory criteria.

VALUE = Parameter exceeds the minimum laboratory reporting limit.

VALUE = Parameter exceeds applicable regulatory criteria.

ABBREVIATIONS

ND = Not detected.

NT = Not tested

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GCML/ OV. 001585

Overlook Acres - Preliminary Cost Estimate Ranges for Environmental Services

	Capping w/offsite disposal of >100 mg/kg	Capping w/offsite disposal of >50 mg/kg	ASSUMPTIONS
Due Diligence	$ 30,000	$ 30,000	
Intial Site Assessment	$ 150,000	$ 250,000	assumes our proposal is the mid-estimate
IRA Removal Actions	$ 50,000	$ 200,000	Asumes excavation and disposal of 10, 30 and 100 tons of PCB/lead impacted waste
Phase II Comprehensive Site Assesment Activities			
Additional Delineation	$ 200,000	$ 250,000	Additional site delineations to further characterizes extent of waste
Ecological Risk Assessment	$ 50,000	$ 100,000	Level of effort increases with extent of wetland impacts
Human Health Risk Assessment	$ 25,000	$ 50,000	Level of effort increases with extent of impacts
Phase II Comprehensive Site Assesment Report	$ 35,000	$ 75,000	
Phase III/IV Remedy Implementation (Design)	$ 100,000	$ 150,000	
TSCA Risk Based Plan	$ 30,000	$ 50,000	
Wetland Permitting	$ 50,000	$ 100,000	Level of effort increases with extent of impacts
Phase IV Remediation Activities			
Environmental controls (Fencing, erosion control, decon pad)	$ 50,000	$ 50,000	Estimate only
Clearing/Grubbing	$ 50,000	$ 100,000	
Excavation/Earthwork (support of excavation)	$ 1,500,000	$ 2,500,000	Excavation/support of excavation of 500, 1000, and 2000 cy of material
Onsite Waste Consolidation	$ 1,500,000	$ 2,500,000	Trucking, compaction and shaping of 500, 1000, and 2000 cy
On-site capping of waste area	$ 2,850,000	$ 3,000,000	Capping with 6-inches of asphalt and appropriate asphalt subgrade material or demarcation barrier, 3-feet of osil and surface restoration
Offsite disposal of soil and on-site stabilization	$ 3,150,000	$ 15,750,000	Assumes $350/ton of lead stabilized TSCA material
Post-excavation confirmatory sampling	$ 100,000	$ 300,000	Required per TSCA and MCP regualtions (assumes PCB/lead sampling)
Wetland Mitigation	$ 1,000,000	$ 2,000,000	assumes 0.1 acre, 0.5 acre, and 1 acre of wetland mitigation; costs very preliminary
Groundwater remediation	$ 100,000	$ 1,000,000	Low assumes bedrock wells installed and no remediation, high assumes nedrock wells and LT Monitoring only
Construction Observation (Environmental)	$ 300,000	$ 450,000	Assumes 6 month and nine month durations
Air Monitoring of Dust during construction	$ 150,000	$ 200,000	Assumes perimeter monitoring of dust and lead
Phase IV Completion /Asbuilts and TSCA Final Report	$ 75,000	$ 150,000	MCP requirment for all Phase IV remediation
Permanent Solution with Conditions (AUL)	$ 75,000	$ 100,000	Level of effort increases with extent of impacts
Annual Cap inspections and Monitoring	$ 10,000	$ 15,000	Inspect asphalt for cracking/damage
Annual Cap repairs	$ 15,000	$ 20,000	Allowance for asphalt repairs
Seasonal groundwater monitoring (annual cost)	-	$ 35,000	May be needed to show remedy effectiveness
Subtotal	$ 11,645,000	$ 29,425,000	
Bond 2%	$ 232,900	$ 588,500	
Contingency 15%	$ 1,746,750	$ 4,413,750	
Estimated Total	**$ 13,624,650**	**$ 34,427,250**	

***Assumptions**

Based on site data generated as of 10/30/20
Assumes no utility abandonment or installation
Assumes site restoration in other cost estimates
Italics: Regulatory Submittals
Annual Costs in perpetuity

DRAFT

GCML/ OV. 001586

WESTON & SAMPSON GENERAL TERMS AND CONDITIONS

1. It is understood that the Proposal attached hereto and dated 8/28/2020 is valid for a period of ninety (90) days. Upon the expiration of that period of time or the delay or suspension of the services, WESTON & SAMPSON reserves the right to review the proposed basis of payment and fees, to allow for changing costs as well as to adjust the period of performance to conform to work loads. References herein to WESTON & SAMPSON are understood to refer to WESTON & SAMPSON ENGINEERS, INC.

2. Invoices will be submitted periodically (customarily on a monthly basis), and terms are net cash, due and payable upon receipt of invoice. If the OWNER fails to make any payment due to WESTON & SAMPSON for services and expenses within thirty (30) days after receipt of WESTON & SAMPSON'S statement therefor the amounts due WESTON & SAMPSON will be increased at the rate of 1.5% per month from said thirtieth day, and in addition, WESTON & SAMPSON may, after giving seven (7) days' written notice to the OWNER, suspend services under this Agreement. Unless payment is received by WESTON & SAMPSON within seven (7) days of the date of the notice, the suspension shall take effect without further notice. In the event of a suspension of services, WESTON & SAMPSON shall have no responsibility to the OWNER for delay or damage caused the OWNER because of such suspension of services.

3. WESTON & SAMPSON will serve as the professional representative of the OWNER as defined by the Proposal or under any Agreement and will provide advice, consultation and services to the OWNER in accordance with generally accepted professional practice consistent with that degree of skill and care ordinarily exercised by practicing design professionals performing similar services in the same locality, at the same site and under the same or similar circumstances and conditions. Therefore, estimates of cost, approvals, recommendations, opinions, and decisions by WESTON & SAMPSON are made on the basis of WESTON & SAMPSON'S experience, qualifications and professional judgment. Accordingly, WESTON & SAMPSON does not warrant or represent that bids or negotiated prices will not vary from the OWNER'S budget for the project, or from any estimate of the Cost of the Work evaluation prepared or agreed to by WESTON & SAMPSON. WESTON & SAMPSON makes no warranty or guarantee, express or implied, regarding the services or work to be provided under this Proposal or any related Agreement. Notwithstanding any other provision of these General Terms and Conditions, unless otherwise subject to a greater limitation, and to the fullest extent permitted by law, the total liability in the aggregate, of WESTON & SAMPSON and their officers, directors, employees, agents, and independent professional associates, and any of them, to OWNER and any one claiming by, through or under OWNER, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of in any way related to WESTON & SAMPSON's services, the project, or this Agreement, from any cause or causes whatsoever, including but not limited to, the negligence, errors, omissions, strict liability, breach of contract, misrepresentation, or breach of warranty of WESTON & SAMPSON or WESTON & SAMPSON's officers, directors, employees, agents or independent professional associates, or any of them, and any causes arising from or related to the COVID-19 pandemic, shall not exceed the greater of $50,000 or the total compensation received by WESTON & SAMPSON hereunder and OWNER hereby releases WESTON & SAMPSON from any liability above such amount. WESTON & SAMPSON shall have no upfront duty to defend the OWNER but shall reimburse defense costs of the OWNER to the same extent of its indemnity obligation herein.

4. Where the Services include subsurface exploration, the OWNER acknowledges that the use of exploration equipment may alter or damage the terrain, vegetation, structures, improvements, or the other property at the Site and accepts the risk. Provided WESTON & SAMPSON uses reasonable care, WESTON & SAMPSON shall not be liable for such alteration or damage or for damage to or interference with any subterranean structure, pipe, tank, cable, or other element or condition whose nature and location are not called to WESTON & SAMPSON'S attention in writing before exploration begins.

5. WESTON & SAMPSON and its consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous waste or viruses, including COVID-19, in any form at the project site. Accordingly, the OWNER agrees to assert no claims against WESTON & SAMPSON, its principals, agents, employees and consultants, if such claim is based, in whole or in part, upon the negligence, breach of contract, breach of warranty, indemnity or

other alleged obligation of WESTON & SAMPSON or its consultants, and arises out of or in connection with the detection, assessment, abatement, identification or remediation of hazardous materials, pollutants or asbestos at, in, under or in the vicinity of the project site identified in the Proposal. OWNER shall defend, indemnify and hold harmless WESTON & SAMPSON, its principals, agents, employees, and consultants and each of them, harmless from and against any and all costs, liability, claims, demands, damages or expenses, including reasonable attorneys' fees, with respect to any such claim or claims described in the preceding sentence, whether asserted by OWNER or any other person or entity. WESTON & SAMPSON shall not be liable for any damages or injuries of any nature whatsoever, due to any delay or suspension in the performance of its services caused by or arising out of the discovery of hazardous substances or pollutants at the project site or exposure of any parties to the COVID-19 virus.

6. WESTON & SAMPSON agrees to purchase at its own expense, Worker's Compensation insurance, Comprehensive General Liability insurance, and Engineer's Professional Liability insurance and will, upon request, furnish insurance certificates to OWNER reflecting WESTON & SAMPSON's standard coverage. WESTON & SAMPSON agrees to purchase whatever additional insurance is requested by OWNER (presuming such insurance is available, from carriers acceptable to WESTON & SAMPSON) provided OWNER reimburses the premiums for additional insurance.

7. As a part of this Agreement, OWNER without cost to WESTON & SAMPSON agrees to do the following in a timely manner so as not to delay the services of WESTON & SAMPSON:

   a. Designate in writing a person to act as OWNER'S representative with respect to work to be performed under this Agreement, such person to have complete authority to transmit instructions, receive information, interpret and define OWNER'S policies and decisions with respect to materials, equipment elements and systems pertinent to the work covered by the Agreement.

   b. Through its officials and other employees who have knowledge of pertinent conditions, confer with WESTON & SAMPSON regarding both general and special considerations relating to the Project.

   c. Assist WESTON & SAMPSON by placing at the disposal of WESTON & SAMPSON, all available information pertinent to the Project including previous reports and other data relative to design or construction of Project.

   d. Furnish or cause to be furnished to WESTON & SAMPSON all documents and information known to OWNER that relate to the identity, location, quantity, nature or characteristics of any hazardous waste at, on or under the site. In addition, OWNER will furnish or cause to be furnished such other reports, data, studies, plans, specifications, documents and other information on surface and subsurface site conditions required by WESTON & SAMPSON for proper performance of its services.

   e. WESTON & SAMPSON shall be entitled to rely, without liability, on the accuracy and completeness of information and documents provided by the OWNER, OWNER'S CONSULTANTS and CONTRACTORS and information from public records, without the need for independent verification.

   f. Pay for all application and permit fees associated with approvals and permits for all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

   g. Arrange for and make all provisions for WESTON & SAMPSON and its agents to enter upon public and private lands as required for WESTON & SAMPSON to perform its work under this Agreement.

   h. Furnish WESTON & SAMPSON with all necessary topographic, property, boundary and right-of-way maps.

   i. Cooperate with and assist WESTON & SAMPSON in all additional work that is mutually agreed upon.

   j. Pay WESTON & SAMPSON for work performed in accordance with terms specified herein.

8. The obligation to provide further services under this Agreement may be terminated by either party upon thirty days' written notice in the event of substantial failure by the other party to perform in accordance

with the terms hereof through no fault of the terminating party. If the Project is suspended or abandoned in whole or in part for more than three (3) months, WESTON & SAMPSON shall be compensated for all services performed prior to receipt of written notice from OWNER of such suspension or abandonment, together with the other direct costs then due. If the Project is resumed after being suspended for more than three (3) months, WESTON & SAMPSON'S compensation shall be equitably adjusted. In the event of termination by either party, WESTON & SAMPSON shall be compensated for all services performed prior to receipt of written termination, together with other direct costs then due, including WESTON & SAMPSON's independent consultants, and for the services necessary to affect termination.

9. The OWNER and WESTON & SAMPSON waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, but only to the extent covered by any property or other insurance in effect whether during or after the project. The OWNER and WESTON & SAMPSON shall each require similar waivers from their contractors, consultants and agents.

10. All Drawings, diagrams, plans, specifications, calculations, reports, processes, computer processes and software, operational and design data, and all other documents and information produced in connection with the project as instruments of service, regardless of form, shall be confidential and the property of WESTON & SAMPSON, and shall remain the sole and exclusive property of WESTON & SAMPSON whether the project for which they are made is executed or not. The OWNER shall not have or acquire any title to or ownership rights in any of the documents or information prepared by WESTON & SAMPSON. OWNER may make and retain copies for information and reference in connection with the use and occupancy of the Project by the OWNER and others; however, such documents are not intended or represented to be suitable for reuse by OWNER or others on extensions of the Project or on any other Projects. Any reuse without written verification or adaptation by WESTON & SAMPSON for the specific purpose intended will be at OWNER'S sole risk and without liability or legal exposure to WESTON & SAMPSON or to WESTON & SAMPSON's independent consultants, and OWNER shall indemnify and hold harmless WESTON & SAMPSON and WESTON & SAMPSON's independent consultants from all claims, damages, losses, and expenses, including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle WESTON & SAMPSON to further compensation at rates to be agreed upon by OWNER and WESTON & SAMPSON.

11. The substantive laws of the Commonwealth of Massachusetts shall govern any disputes between WESTON & SAMPSON and the OWNER arising out of the interpretation and performance of this Agreement.

12. WESTON & SAMPSON and the OWNER agree that any disputes arising under this Agreement and the performance thereof shall be subject to nonbinding mediation as a prerequisite to further legal proceedings. The parties may engage in remote mediation if in-person mediation is not possible or practicable die to the COVID-19 pandemic, or if mutually agreed upon between the parties.

13. WESTON & SAMPSON shall not be required to sign any documents, no matter by who requested, that would result in WESTON & SAMPSON having to certify, guaranty, or warrant the existence of conditions that would require knowledge, services or responsibilities beyond the scope of this Agreement.

14. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, a third party against either the OWNER or WESTON & SAMPSON. WESTON & SAMPSON'S services hereunder are being performed solely for the benefit of the OWNER, and no other entity shall have any claim against WESTON & SAMPSON because of this Agreement or WESTON & SAMPSON'S performance of services hereunder.

15. Notwithstanding anything to the contrary contained herein, OWNER and ENGINEER agree that their sole and exclusive claim, demand, suit, judgment or remedy against each other shall be asserted against each other's corporate entity and not against each other's shareholders, A/E's, directors, officers or employees.

16. To the extent they are inconsistent or contradictory, express terms of this Proposal take precedence over these General Terms and Condition. It is understood and agreed that the services or work performed under this Proposal or any Agreement are not subject to any provision of any Uniform Commercial Code. Any terms and conditions set forth in

OWNER'S purchase order, requisition, or other notice or authorization to proceed are inapplicable to the services under this Proposal or any related Agreement, except when specifically provided for in full on the face of such purchase order, requisition, or notice or authorization and specifically accepted in writing by WESTON & SAMPSON. WESTON & SAMPSON'S acknowledgement of receipt of any purchase order, requisition, notice or authorization, or WESTON & SAMPSON'S performance of work subsequent to receipt thereof, does not constitute acceptance of any terms or conditions other than those set forth herein.

17. If any provision of this Agreement shall be finally determined to be invalid or unenforceable in whole or in part, the remaining provisions hereof shall remain in full force and effect, and be binding upon the parties hereto. The parties agree to reform this Agreement to replace any such invalid or unenforceable provision with a valid and enforceable provision that comes as close as possible to the intention of the stricken provision.

18.** The parties to this contract recognize their obligations under the Massachusetts Data Security Law and Regulations, G. L. c. 93H and 93I and 201 CMR 17.00, to safeguard "personal information" as defined below. Both parties hereby represent that they have adopted the required Written Information Security Program, have taken the other steps required to safeguard personal information and are in full compliance with the law. The parties agree that in furtherance of their legal obligations, they will not transmit, communicate or otherwise provide to each other any personal information, unless it is necessary to comply with their obligations under this Agreement. The parties also agree that when it is not necessary for them to transmit, communicate or otherwise provide to each other any personal information as part of their obligations hereunder, they will take active steps to prevent such transmission, communication, or transfer. For purposes of this Agreement, "personal information" means a Massachusetts residents first name and last name or first initial and last name in combination with any one or more of the following data elements that relate to such resident: (a) Social Security number; (b) driver's license number or state-issued identification card number; or (c) financial account number, or credit or debit card number, with or without any required security code, access code, personal identification number or password, that would permit access to a resident's financial account.

19. If delays or failures of performance of WESTON & SAMPSON are caused by occurrences beyond the reasonable control of WESTON & SAMPSON, WESTON & SAMPSON shall not be in default of this AGREEMENT. Said occurrences shall include Acts of God or the public enemy; expropriation or confiscation; compliance with any quarantine or other order of any governmental authority; pandemic; epidemic; public health crisis; labor or materials shortage; changes in law; act of war, rebellion, terrorism or sabotage or damage resulting therefrom; fires, floods, explosions, accidents, riots, strikes or other concerted acts of workmen, whether direct or indirect; delays in permitting; OWNER's failure to provide data in OWNER's possession or provide necessary comments in connection with any required reports prepared by WESTON & SAMPSON, or any other causes which are beyond the reasonable control of WESTON & SAMPSON. WESTON & SAMPSON's scheduled completion date shall be adjusted to account for any force majeure delay and WESTON & SAMPSON shall be compensated for all costs incurred in connection with or arising from a force majeure event or in the exercise of reasonable diligence to avoid or mitigate a force majeure event.

Approved by:

_____
OWNER Name

_____
Signature Date

_____
Printed Name and Title

GCML/ OV. 001591

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	GFS-1
Project No:	20.106.NH	**Approx. Surface Elev:**	± 109
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** J. Sobol	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:**	Sunny
Capacity: 2 cu. yds.	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
5				
10		Auto Fluff (FILL) Refusal on presumed bedrock TEST PIT TERMINATED AT 8.5 ft		
15				
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length	
Width	
Depth	
Volume	cu. ft.

REMARKS:

GCML/ OV. 001592

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Overlook Acres Residential
Salem, MA
Project No: 20.106.NH
Date: 08-11-20

Test Pit No: MET-5
Approx. Surface Elev: ± 111.5
Location: See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno
Operator: Matt
Make: Komatsu
Model: PC 390 LC
Capacity: 2 **cu. yds.**
Reach:

MET Representative: T. Young
Weather: Sunny

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0			Several cobbles 2'x3'x3' - 3 1'x1'x2' - 4 1'x1'x1' - 15	
5				
10				
15		Dark brown, fine to coarse sand, some gravel (brick, tire and wood pieces (FILL)		
		TEST PIT TERMINATED AT 15 ft		
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 24'
Width 14'
Depth 15'
Volume 5040 **cu. ft.**

REMARKS: Test pit terminated due to sides continually collapsing in.

GCML/ OV. 001593

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-12
Project No:	20.106.NH	**Approx. Surface Elev:**	± 112.5
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** J. Sobol	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:**	Sunny
Capacity: 2 cu. yds.	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0	1	Dark brown/black brush/silty topsoil/roots		
	2.5	Light brown, fine sand and silt (subsoil)		
		Refusal on fractured/compentent bedrock at approximately 2.5-4'		
5		TEST PIT TERMINATED AT 4 ft		
10				
15				
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length	
Width	
Depth	
Volume	cu. ft.

REMARKS: Staked by Miller/GFS 60' off MET-4.

GCML/ OV. 001594

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-13
Project No:	20.106.NH	**Approx. Surface Elev:**	± 109
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** J. Sobol	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:** Sunny	
Capacity: 2 cu. yds.	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0	4	Fill: Topsoil/Brick/Roots/Unidentified debris (thickness of fill from approximately 2' - 5' Below 2' and 5' fill; Light brown, fine sand silt (subsoil) (thickness varies from approximately 2.5' - 5') (Deeper fill in southwest side of test pit) Bottom of test pit varies from 3' - 9' . Refusal on fractued/competent bedrock at depths varying from 3' - 9', deeper refusal at southwest side of test pit TEST PIT TERMINATED AT 9 ft		
5				
10				
15				
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length	
Width	
Depth	
Volume	cu. ft.

REMARKS:

GCML/ OV. 001595

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Overlook Acres Residential
Salem, MA
Project No: 20.106.NH
Date: 08-11-20

Test Pit No: MET-14
Approx. Surface Elev: ± 104
Location: See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno
MET Representative: J. Sobol
Operator: Matt
Make: Komatsu
Model: PC 390 LC
Weather: Sunny
Capacity: 2 **cu. yds.**
Reach:

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0	2	Brush/Topsoil/Roots		
	3	Orange/Brown, fine sandy silt (subsoil)		
5		Weathered/Fractured bedrock		
		Refusal on fractured/competent bedrock		
10		TEST PIT TERMINATED AT 7 ft		
15				
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 12'
Width 4'
Depth 7'
Volume 336 **cu. ft.**

REMARKS: Appoximate location staked by Miller/GFS

GCML/ OV. 001596

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-16
Project No:	20.106.NH	**Approx. Surface Elev:**	± 97.7
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** J. Sobol
Operator: Matt		
Make: Komatsu	**Model:** PC 390 LC	**Weather:** Sunny
Capacity: 2 cu. yds.	**Reach:**	

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0	.5	Brush/Topsoil/Roots		
	2	Light brown, fine sandy silt (subsoil)		
		Fractured bedrock		
5		Refusal on bedrock		
		TEST PIT TERMINATED AT 3 ft		
10				
15				
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length	15'
Width	14'
Depth	3'
Volume	630 cu. ft.

REMARKS:

GCML/ OV. 001597

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Overlook Acres Residential
Salem, MA
Project No: 20.106.NH
Date: 08-11-20

Test Pit No: MET-17
Approx. Surface Elev: ±91.5
Location: See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno
Operator: Matt
Make: Komatsu
Model: PC 390 LC
Capacity: 2 **cu. yds.**
Reach:

MET Representative: J. Sobol
Weather: Sunny

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0	.7	Dark brown/black, brush/topsoil/roots		
	2	Light brown, fine sandy silt (subsoil)		
5				
		Dark brown/black, weathered rock		
		Refusal on fractured/competent bedrock		
		TEST PIT TERMINATED AT 6.7 ft		
10				
15				
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length
Width
Depth
Volume cu. ft.

REMARKS:

GCML/ OV. 001598

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Overlook Acres Residential
Salem, MA
Project No: 20.106.NH
Date: 08-11-20

Test Pit No: MET-18
Approx. Surface Elev: ± 108
Location: See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno
MET Representative: T. Young
Operator: Matt
Make: Komatsu
Model: PC 390 LC
Weather: Sunny
Capacity: 2 cu. yds.
Reach:

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
5				
10				
15				
20				
25		Auto Fluff (FILL)		
		Excavator Refusal at 25'		
		TEST PIT TERMINATED AT 25 ft		

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 24'
Width 5'
Depth 25
Volume 3000 cu. ft.

REMARKS: Bottom material was wet, but no noticable water flowing into the test pit.

GCML/ OV. 001599

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-19
Project No:	20.106.NH	**Approx. Surface Elev:**	± 108
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** T. Young	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:** Sunny	
Capacity: 2 cu. yds.	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
5				
10				
15				
20				
25		Auto Fluff (FILL) Excavator Refusal at 24' TEST PIT TERMINATED AT 24 ft		

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 24'
Width 5'
Depth 24'
Volume 2880 cu. ft.

REMARKS: Bottom material was wet, but no visible water.

GCML/ OV. 001600

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-20
Project No:	20.106.NH	**Approx. Surface Elev:**	± 105
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** T. Young	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:**	Sunny
Capacity: 2 cu. yds.	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
5				
10				
15				
20		Auto Fluff (FILL)		
		Refusal on presumed bedrock		
		TEST PIT TERMINATED AT 20 ft		
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 23'
Width 5'
Depth 20'
Volume 2300 cu. ft.

REMARKS:

GCML/ OV. 001601

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Overlook Acres Residential, Salem, MA
Project No: 20.106.NH
Date: 08-11-20
Test Pit No: MET-21
Approx. Surface Elev: ± 107
Location: See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno
MET Representative: T. Young
Operator: Matt
Make: Komatsu
Model: PC 390 LC
Weather: Sunny
Capacity: 2 cu. yds.
Reach:

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
5				
10				
	14.25	Auto Fluff (FILL)		
15		Gray, fine to medium sand, some gravel, little silt	9 cobbles	
		TEST PIT TERMINATED AT 16.5 ft		
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 21'
Width 5'
Depth 16.5'
Volume 1732.5 cu. ft.

REMARKS:

GCML/ OV. 001602

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-22
Project No:	20.106.NH	**Approx. Surface Elev:**	± 106
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** T. Young	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:** Sunny	
Capacity: 2 **cu. yds.**	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
5				
10				
15				
20				
25		Auto Fluff (FILL) Excavator Refusal at 24' TEST PIT TERMINATED AT 24 ft		

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 24'
Width 5'
Depth 24'
Volume 2880 **cu. ft.**

REMARKS:

GCML/ OV. 001603

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-23
Project No:	20.106.NH	**Approx. Surface Elev:**	± 127
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** T. Young	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:**	Sunny
Capacity: 2 cu. yds.	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
	4	Auto Fluff (FILL)		
5		Brown/Orange to tan, fine to medium sand, some angular gravel	Few Cobbles	
		TEST PIT TERMINATED AT 7 ft		
10				
15				
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 14'
Width 5'
Depth 7'
Volume 490 cu. ft.

REMARKS:

GCML/ OV. 001604

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project:	Overlook Acres Residential Salem, MA	**Test Pit No:**	MET-48
Project No:	20.106.NH	**Approx. Surface Elev:**	± 110
Date:	08-11-20	**Location:**	See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno		**MET Representative:** T. Young	
Operator: Matt			
Make: Komatsu	**Model:** PC 390 LC	**Weather:**	Sunny
Capacity: 2 cu. yds.	**Reach:**		

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks
0				
5				
10				
15				
	17	Auto Fluff (FILL)		
		Tan, fine to medium sand, little silt, some gravel		
		TEST PIT TERMINATED AT 18 ft		
20				
25				

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length 21'
Width 5'
Depth 18'
Volume 1890 cu. ft.

REMARKS:

GCML/ OV. 001605

TEST PIT LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Overlook Acres Residential
Salem, MA
Project No: 20.106.NH
Date: 08-11-20

Test Pit No: MET-73
Approx. Surface Elev: ± 118.5
Location: See Plan

EXCAVATION EQUIPMENT

Contractor: Meninno
Operator: Matt
Make: Komatsu
Model: PC 390 LC
Capacity: 2 cu. yds.
Reach:

MET Representative: T. Young
Weather: Sunny

Depth/ Elev.	Strata Change	Soil Description	Boulder Size/Count	Remarks

Ground Water Observations

Date	Time	Depth	Remarks
			Dry Upon Completion

Pit Dimensions

Length	
Width	
Depth	
Volume	cu. ft.

REMARKS: Test pit located on a bedrock outcrop.

APPENDIX B

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

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 3K15010
Client Project: 1843 - Barnes Rd & Cedar Rd, Salem

Report Date: 22-November-2023

Prepared for:

Michael Bricher
Blackstone Environmental Solutions
76 Bay View Drive
Shrewsbury, MA 01545



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

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 11/15/23. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 3K15010. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
3K15010-01	SS-1 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-02	SS-2 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-03	SS-3 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-04	SS-4 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-05	SS-5 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-06	SS-6 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-07	SS-7 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-08	SS-8 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-09	SS-9 / 0-1'	Soil	11/14/2023	11/15/2023
3K15010-10	SS-10 / 0-1'	Soil	11/13/2023	11/15/2023
3K15010-11	SS-11 / 0-1'	Soil	11/13/2023	11/15/2023
3K15010-12	SS-12 / 0-1'	Soil	11/13/2023	11/15/2023
3K15010-13	SS-13 / 0-1'	Soil	11/13/2023	11/15/2023
3K15010-14	SS-14 / 0-1'	Soil	11/13/2023	11/15/2023

Request for Analysis

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

SS-1 / 0-1' (Lab Number: 3K15010-01)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-10 / 0-1' (Lab Number: 3K15010-10)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-11 / 0-1' (Lab Number: 3K15010-11)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C

Request for Analysis (continued)

SS-11 / 0-1' (Lab Number: 3K15010-11) (continued)

Analysis	Method
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-12 / 0-1' (Lab Number: 3K15010-12)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-13 / 0-1' (Lab Number: 3K15010-13)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Request for Analysis (continued)

SS-14 / 0-1' (Lab Number: 3K15010-14)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-2 / 0-1' (Lab Number: 3K15010-02)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-3 / 0-1' (Lab Number: 3K15010-03)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Request for Analysis (continued)

SS-4 / 0-1' (Lab Number: 3K15010-04)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-5 / 0-1' (Lab Number: 3K15010-05)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-6 / 0-1' (Lab Number: 3K15010-06)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Request for Analysis (continued)

SS-7 / 0-1' (Lab Number: 3K15010-07)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-8 / 0-1' (Lab Number: 3K15010-08)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-9 / 0-1' (Lab Number: 3K15010-09)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Method References

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

Case Narrative

Sample Receipt:

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

Exceptions: None

Analysis:

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

Exceptions:
8082: The samples "SS-1 / 0-1'" and "SS-12 / 0-1'" were reported with only a single surrogate due to matrix pattern interference during analysis.

Results: Total Metals

Sample: SS-1 / 0-1'

Lab Number: 3K15010-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	**1.44**		0.93	mg/kg	11/16/23	11/22/23
Arsenic	**13.9**		1.41	mg/kg	11/16/23	11/22/23
Barium	**553**		0.46	mg/kg	11/16/23	11/22/23
Beryllium	**0.97**		0.46	mg/kg	11/16/23	11/22/23
Cadmium	**20.6**		0.70	mg/kg	11/16/23	11/22/23
Chromium	**57.2**		0.70	mg/kg	11/16/23	11/22/23
Lead	**1020**		0.70	mg/kg	11/16/23	11/22/23
Mercury	ND		1.48	mg/kg	11/16/23	11/20/23
Nickel	**136**		0.70	mg/kg	11/16/23	11/22/23
Selenium	ND		1.41	mg/kg	11/16/23	11/22/23
Silver	ND		1.41	mg/kg	11/16/23	11/22/23
Vanadium	**35.8**		0.46	mg/kg	11/16/23	11/22/23
Zinc	**6170**		2.8	mg/kg	11/16/23	11/22/23
Thallium	ND		0.46	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-2 / 0-1'

Lab Number: 3K15010-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.81	mg/kg	11/16/23	11/22/23
Arsenic	**2.81**		1.23	mg/kg	11/16/23	11/22/23
Barium	**14.1**		0.41	mg/kg	11/16/23	11/22/23
Beryllium	**0.70**		0.41	mg/kg	11/16/23	11/22/23
Cadmium	**1.01**		0.62	mg/kg	11/16/23	11/22/23
Chromium	**7.88**		0.62	mg/kg	11/16/23	11/22/23
Lead	**40.2**		0.62	mg/kg	11/16/23	11/22/23
Mercury	ND		0.149	mg/kg	11/16/23	11/20/23
Nickel	**6.52**		0.62	mg/kg	11/16/23	11/22/23
Selenium	ND		1.23	mg/kg	11/16/23	11/22/23
Silver	ND		1.23	mg/kg	11/16/23	11/22/23
Vanadium	**19.2**		0.41	mg/kg	11/16/23	11/22/23
Zinc	**59.7**		2.5	mg/kg	11/16/23	11/22/23
Thallium	ND		0.41	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-3 / 0-1'

Lab Number: 3K15010-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		1.00	mg/kg	11/16/23	11/22/23
Arsenic	**5.78**		1.51	mg/kg	11/16/23	11/22/23
Barium	**24.5**		0.50	mg/kg	11/16/23	11/22/23
Beryllium	**0.55**		0.50	mg/kg	11/16/23	11/22/23
Cadmium	ND		0.76	mg/kg	11/16/23	11/22/23
Chromium	**13.2**		0.76	mg/kg	11/16/23	11/22/23
Lead	**54.8**		0.76	mg/kg	11/16/23	11/22/23
Mercury	**0.395**		0.176	mg/kg	11/16/23	11/20/23
Nickel	**18.2**		0.76	mg/kg	11/16/23	11/22/23
Selenium	ND		1.51	mg/kg	11/16/23	11/22/23
Silver	ND		1.51	mg/kg	11/16/23	11/22/23
Vanadium	**14.9**		0.50	mg/kg	11/16/23	11/22/23
Zinc	**90.6**		3.0	mg/kg	11/16/23	11/22/23
Thallium	ND		0.50	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-4 / 0-1'

Lab Number: 3K15010-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		1.27	mg/kg	11/16/23	11/22/23
Arsenic	**7.12**		1.92	mg/kg	11/16/23	11/22/23
Barium	**197**		0.63	mg/kg	11/16/23	11/22/23
Beryllium	ND		0.63	mg/kg	11/16/23	11/22/23
Cadmium	**6.29**		0.96	mg/kg	11/16/23	11/22/23
Chromium	**41.6**		0.96	mg/kg	11/16/23	11/22/23
Lead	**688**		0.96	mg/kg	11/16/23	11/22/23
Mercury	**0.298**		0.210	mg/kg	11/16/23	11/20/23
Nickel	**75.0**		0.96	mg/kg	11/16/23	11/22/23
Selenium	ND		1.92	mg/kg	11/16/23	11/22/23
Silver	ND		1.92	mg/kg	11/16/23	11/22/23
Vanadium	**20.1**		0.63	mg/kg	11/16/23	11/22/23
Zinc	**2470**		3.8	mg/kg	11/16/23	11/22/23
Thallium	ND		0.63	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-5 / 0-1'

Lab Number: 3K15010-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.84	mg/kg	11/16/23	11/22/23
Arsenic	**5.33**		1.28	mg/kg	11/16/23	11/22/23
Barium	**133**		0.42	mg/kg	11/16/23	11/22/23
Beryllium	**0.53**		0.42	mg/kg	11/16/23	11/22/23
Cadmium	**4.93**		0.64	mg/kg	11/16/23	11/22/23
Chromium	**54.6**		0.64	mg/kg	11/16/23	11/22/23
Lead	**299**		0.64	mg/kg	11/16/23	11/22/23
Mercury	ND		1.51	mg/kg	11/16/23	11/20/23
Nickel	**94.2**		0.64	mg/kg	11/16/23	11/22/23
Selenium	ND		1.28	mg/kg	11/16/23	11/22/23
Silver	ND		1.28	mg/kg	11/16/23	11/22/23
Vanadium	**15.5**		0.42	mg/kg	11/16/23	11/22/23
Zinc	**1120**		2.6	mg/kg	11/16/23	11/22/23
Thallium	ND		0.42	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-6 / 0-1'

Lab Number: 3K15010-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.86	mg/kg	11/16/23	11/22/23
Arsenic	**7.69**		1.31	mg/kg	11/16/23	11/22/23
Barium	**35.8**		0.43	mg/kg	11/16/23	11/22/23
Beryllium	**1.14**		0.43	mg/kg	11/16/23	11/22/23
Cadmium	**0.82**		0.65	mg/kg	11/16/23	11/22/23
Chromium	**12.7**		0.65	mg/kg	11/16/23	11/22/23
Lead	**54.2**		0.65	mg/kg	11/16/23	11/22/23
Mercury	ND		0.159	mg/kg	11/16/23	11/20/23
Nickel	**12.3**		0.65	mg/kg	11/16/23	11/22/23
Selenium	ND		1.31	mg/kg	11/16/23	11/22/23
Silver	ND		1.31	mg/kg	11/16/23	11/22/23
Vanadium	**31.3**		0.43	mg/kg	11/16/23	11/22/23
Zinc	**169**		2.6	mg/kg	11/16/23	11/22/23
Thallium	ND		0.43	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-7 / 0-1'

Lab Number: 3K15010-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.79	mg/kg	11/16/23	11/22/23
Arsenic	**3.98**		1.20	mg/kg	11/16/23	11/22/23
Barium	**81.3**		0.40	mg/kg	11/16/23	11/22/23
Beryllium	**1.16**		0.40	mg/kg	11/16/23	11/22/23
Cadmium	**1.80**		0.60	mg/kg	11/16/23	11/22/23
Chromium	**10.2**		0.60	mg/kg	11/16/23	11/22/23
Lead	**108**		0.60	mg/kg	11/16/23	11/22/23
Mercury	ND		0.145	mg/kg	11/16/23	11/20/23
Nickel	**17.1**		0.60	mg/kg	11/16/23	11/22/23
Selenium	ND		1.20	mg/kg	11/16/23	11/22/23
Silver	ND		1.20	mg/kg	11/16/23	11/22/23
Vanadium	**42.4**		0.40	mg/kg	11/16/23	11/22/23
Zinc	**248**		2.4	mg/kg	11/16/23	11/22/23
Thallium	ND		0.40	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-8 / 0-1'

Lab Number: 3K15010-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.91	mg/kg	11/16/23	11/22/23
Arsenic	**3.45**		1.38	mg/kg	11/16/23	11/22/23
Barium	**52.4**		0.45	mg/kg	11/16/23	11/22/23
Beryllium	**1.52**		0.45	mg/kg	11/16/23	11/22/23
Cadmium	**1.18**		0.69	mg/kg	11/16/23	11/22/23
Chromium	**4.93**		0.69	mg/kg	11/16/23	11/22/23
Lead	**29.5**		0.69	mg/kg	11/16/23	11/22/23
Mercury	ND		0.156	mg/kg	11/16/23	11/20/23
Nickel	**7.89**		0.69	mg/kg	11/16/23	11/22/23
Selenium	ND		1.38	mg/kg	11/16/23	11/22/23
Silver	ND		1.38	mg/kg	11/16/23	11/22/23
Vanadium	**62.9**		0.45	mg/kg	11/16/23	11/22/23
Zinc	**158**		2.8	mg/kg	11/16/23	11/22/23
Thallium	ND		0.45	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-9 / 0-1'

Lab Number: 3K15010-09 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.84	mg/kg	11/16/23	11/22/23
Arsenic	**3.55**		1.28	mg/kg	11/16/23	11/22/23
Barium	**30.5**		0.42	mg/kg	11/16/23	11/22/23
Beryllium	**0.83**		0.42	mg/kg	11/16/23	11/22/23
Cadmium	**0.69**		0.64	mg/kg	11/16/23	11/22/23
Chromium	**6.39**		0.64	mg/kg	11/16/23	11/22/23
Lead	**33.6**		0.64	mg/kg	11/16/23	11/22/23
Mercury	ND		0.140	mg/kg	11/16/23	11/20/23
Nickel	**22.7**		0.64	mg/kg	11/16/23	11/22/23
Selenium	ND		1.28	mg/kg	11/16/23	11/22/23
Silver	ND		1.28	mg/kg	11/16/23	11/22/23
Vanadium	**29.6**		0.42	mg/kg	11/16/23	11/22/23
Zinc	**150**		2.6	mg/kg	11/16/23	11/22/23
Thallium	ND		0.42	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-10 / 0-1'

Lab Number: 3K15010-10 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		1.08	mg/kg	11/16/23	11/22/23
Arsenic	**4.14**		1.63	mg/kg	11/16/23	11/22/23
Barium	**127**		0.54	mg/kg	11/16/23	11/22/23
Beryllium	**0.61**		0.54	mg/kg	11/16/23	11/22/23
Cadmium	**5.49**		0.82	mg/kg	11/16/23	11/22/23
Chromium	**15.1**		0.82	mg/kg	11/16/23	11/22/23
Lead	**276**		0.82	mg/kg	11/16/23	11/22/23
Mercury	**0.219**		0.177	mg/kg	11/16/23	11/20/23
Nickel	**45.9**		0.82	mg/kg	11/16/23	11/22/23
Selenium	ND		1.63	mg/kg	11/16/23	11/22/23
Silver	ND		1.63	mg/kg	11/16/23	11/22/23
Vanadium	**22.7**		0.54	mg/kg	11/16/23	11/22/23
Zinc	**1730**		3.3	mg/kg	11/16/23	11/22/23
Thallium	ND		0.54	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-11 / 0-1'

Lab Number: 3K15010-11 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		1.02	mg/kg	11/16/23	11/22/23
Arsenic	**6.34**		1.55	mg/kg	11/16/23	11/22/23
Barium	**57.4**		0.51	mg/kg	11/16/23	11/22/23
Beryllium	**1.08**		0.51	mg/kg	11/16/23	11/22/23
Cadmium	**1.00**		0.77	mg/kg	11/16/23	11/22/23
Chromium	**20.0**		0.77	mg/kg	11/16/23	11/22/23
Lead	**174**		0.77	mg/kg	11/16/23	11/22/23
Mercury	ND		0.172	mg/kg	11/16/23	11/20/23
Nickel	**15.7**		0.77	mg/kg	11/16/23	11/22/23
Selenium	ND		1.55	mg/kg	11/16/23	11/22/23
Silver	ND		1.55	mg/kg	11/16/23	11/22/23
Vanadium	**33.8**		0.51	mg/kg	11/16/23	11/22/23
Zinc	**171**		3.1	mg/kg	11/16/23	11/22/23
Thallium	ND		0.51	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-12 / 0-1'

Lab Number: 3K15010-12 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	**18.6**		1.00	mg/kg	11/16/23	11/22/23
Arsenic	**26.8**		1.52	mg/kg	11/16/23	11/22/23
Barium	**1250**		0.50	mg/kg	11/16/23	11/22/23
Beryllium	**0.60**		0.50	mg/kg	11/16/23	11/22/23
Cadmium	**33.2**		0.76	mg/kg	11/16/23	11/22/23
Chromium	**169**		0.76	mg/kg	11/16/23	11/22/23
Lead	**2080**		0.76	mg/kg	11/16/23	11/22/23
Mercury	ND		3.57	mg/kg	11/16/23	11/20/23
Nickel	**462**		0.76	mg/kg	11/16/23	11/22/23
Selenium	ND		1.52	mg/kg	11/16/23	11/22/23
Silver	ND		1.52	mg/kg	11/16/23	11/22/23
Vanadium	**28.9**		0.50	mg/kg	11/16/23	11/22/23
Zinc	**11500**		3.0	mg/kg	11/16/23	11/22/23
Thallium	ND		0.50	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-13 / 0-1'

Lab Number: 3K15010-13 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		1.01	mg/kg	11/16/23	11/22/23
Arsenic	**7.43**		1.53	mg/kg	11/16/23	11/22/23
Barium	**183**		0.50	mg/kg	11/16/23	11/22/23
Beryllium	**0.73**		0.50	mg/kg	11/16/23	11/22/23
Cadmium	**4.29**		0.76	mg/kg	11/16/23	11/22/23
Chromium	**21.5**		0.76	mg/kg	11/16/23	11/22/23
Lead	**381**		0.76	mg/kg	11/16/23	11/22/23
Mercury	**0.997**		0.190	mg/kg	11/16/23	11/20/23
Nickel	**66.7**		0.76	mg/kg	11/16/23	11/22/23
Selenium	ND		1.53	mg/kg	11/16/23	11/22/23
Silver	ND		1.53	mg/kg	11/16/23	11/22/23
Vanadium	**23.7**		0.50	mg/kg	11/16/23	11/22/23
Zinc	**1590**		3.1	mg/kg	11/16/23	11/22/23
Thallium	ND		0.50	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-14 / 0-1'

Lab Number: 3K15010-14 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.99	mg/kg	11/16/23	11/22/23
Arsenic	**8.32**		1.50	mg/kg	11/16/23	11/22/23
Barium	**207**		0.50	mg/kg	11/16/23	11/22/23
Beryllium	**0.97**		0.50	mg/kg	11/16/23	11/22/23
Cadmium	**7.06**		0.75	mg/kg	11/16/23	11/22/23
Chromium	**20.6**		0.75	mg/kg	11/16/23	11/22/23
Lead	**307**		0.75	mg/kg	11/16/23	11/22/23
Mercury	**0.420**		0.167	mg/kg	11/16/23	11/20/23
Nickel	**61.1**		0.75	mg/kg	11/16/23	11/22/23
Selenium	ND		1.50	mg/kg	11/16/23	11/22/23
Silver	ND		1.50	mg/kg	11/16/23	11/22/23
Vanadium	**34.7**		0.50	mg/kg	11/16/23	11/22/23
Zinc	**2250**		3.0	mg/kg	11/16/23	11/22/23
Thallium	ND		0.50	mg/kg	11/16/23	11/22/23

Results: Semivolatile organic compounds

Sample: SS-5 / 0-1'

Lab Number: 3K15010-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		291	ug/kg	11/16/23	11/16/23
1,2-Dichlorobenzene	ND		291	ug/kg	11/16/23	11/16/23
1,3-Dichlorobenzene	ND		291	ug/kg	11/16/23	11/16/23
1,4-Dichlorobenzene	ND		291	ug/kg	11/16/23	11/16/23
Phenol	ND		291	ug/kg	11/16/23	11/16/23
2,4,5-Trichlorophenol	ND		291	ug/kg	11/16/23	11/16/23
2,4,6-Trichlorophenol	ND		291	ug/kg	11/16/23	11/16/23
2,4-Dichlorophenol	ND		291	ug/kg	11/16/23	11/16/23
2,4-Dimethylphenol	ND		739	ug/kg	11/16/23	11/16/23
2,4-Dinitrophenol	ND		739	ug/kg	11/16/23	11/16/23
2,4-Dinitrotoluene	ND		291	ug/kg	11/16/23	11/16/23
2,6-Dinitrotoluene	ND		291	ug/kg	11/16/23	11/16/23
2-Chloronaphthalene	ND		291	ug/kg	11/16/23	11/16/23
2-Chlorophenol	ND		291	ug/kg	11/16/23	11/16/23
2-Methylnaphthalene	ND		291	ug/kg	11/16/23	11/16/23
Nitrobenzene	ND		291	ug/kg	11/16/23	11/16/23
2-Methylphenol	ND		291	ug/kg	11/16/23	11/16/23
2-Nitroaniline	ND		291	ug/kg	11/16/23	11/16/23
2-Nitrophenol	ND		739	ug/kg	11/16/23	11/16/23
3,3'-Dichlorobenzidine	ND		739	ug/kg	11/16/23	11/16/23
3-Nitroaniline	ND		291	ug/kg	11/16/23	11/16/23
4,6-Dinitro-2-methylphenol	ND		739	ug/kg	11/16/23	11/16/23
4-Bromophenyl phenyl ether	ND		291	ug/kg	11/16/23	11/16/23
4-Chloro-3-methylphenol	ND		291	ug/kg	11/16/23	11/16/23
4-Chloroaniline	ND		291	ug/kg	11/16/23	11/16/23
4-Chlorophenyl phenyl ether	ND		291	ug/kg	11/16/23	11/16/23
4-Nitroaniline	ND		291	ug/kg	11/16/23	11/16/23
4-Nitrophenol	ND		739	ug/kg	11/16/23	11/16/23
Acenaphthene	ND		291	ug/kg	11/16/23	11/16/23
Acenaphthylene	ND		291	ug/kg	11/16/23	11/16/23
Aniline	ND		291	ug/kg	11/16/23	11/16/23
Anthracene	**381**		291	ug/kg	11/16/23	11/16/23
Benzo(a)anthracene	**1640**		291	ug/kg	11/16/23	11/16/23
Benzo(a)pyrene	**1440**		291	ug/kg	11/16/23	11/16/23
Benzo(b)fluoranthene	**1780**		291	ug/kg	11/16/23	11/16/23
Benzo(g,h,i)perylene	**737**		291	ug/kg	11/16/23	11/16/23
Benzo(k)fluoranthene	**757**		291	ug/kg	11/16/23	11/16/23
Benzoic acid	ND		2240	ug/kg	11/16/23	11/16/23
Biphenyl	ND		67	ug/kg	11/16/23	11/16/23
Bis(2-chloroethoxy)methane	ND		291	ug/kg	11/16/23	11/16/23
Bis(2-chloroethyl)ether	ND		291	ug/kg	11/16/23	11/16/23
Bis(2-chloroisopropyl)ether	ND		291	ug/kg	11/16/23	11/16/23
Bis(2-ethylhexyl)phthalate	**25800**		1790	ug/kg	11/16/23	11/16/23
Butyl benzyl phthalate	**7840**		291	ug/kg	11/16/23	11/16/23
Chrysene	**1290**		291	ug/kg	11/16/23	11/16/23
Di-n-octyl phthalate	ND		448	ug/kg	11/16/23	11/16/23
Dibenz(a,h)anthracene	ND		291	ug/kg	11/16/23	11/16/23
Dibenzofuran	ND		291	ug/kg	11/16/23	11/16

Results: Semivolatile organic compounds (Continued)

Sample: SS-5 / 0-1' (Continued)

Lab Number: 3K15010-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		291	ug/kg	11/16/23	11/16/23
Dimethyl phthalate	ND		739	ug/kg	11/16/23	11/16/23
Di-n-butyl phthalate	**575**		448	ug/kg	11/16/23	11/16/23
Fluoranthene	**2570**		291	ug/kg	11/16/23	11/16/23
Fluorene	ND		291	ug/kg	11/16/23	11/16/23
Hexachlorobenzene	ND		291	ug/kg	11/16/23	11/16/23
Hexachlorobutadiene	ND		291	ug/kg	11/16/23	11/16/23
Hexachlorocyclopentadiene	ND		739	ug/kg	11/16/23	11/16/23
Hexachloroethane	ND		291	ug/kg	11/16/23	11/16/23
Indeno(1,2,3-cd)pyrene	**758**		291	ug/kg	11/16/23	11/16/23
Isophorone	ND		291	ug/kg	11/16/23	11/16/23
Naphthalene	ND		291	ug/kg	11/16/23	11/16/23
N-Nitrosodimethylamine	ND		291	ug/kg	11/16/23	11/16/23
N-Nitrosodi-n-propylamine	ND		291	ug/kg	11/16/23	11/16/23
N-Nitrosodiphenylamine	ND		291	ug/kg	11/16/23	11/16/23
Pentachlorophenol	ND		739	ug/kg	11/16/23	11/16/23
Phenanthrene	**1090**		291	ug/kg	11/16/23	11/16/23
Pyrene	**2350**		291	ug/kg	11/16/23	11/16/23
m&p-Cresol	ND		582	ug/kg	11/16/23	11/16/23
Pyridine	ND		291	ug/kg	11/16/23	11/16/23
Azobenzene	ND		291	ug/kg	11/16/23	11/16/23
Total Dichlorobenzene	ND		291	ug/kg	11/16/23	11/16/23

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*57.9%*	*30-126*	11/16/23	11/16/23
p-Terphenyl-d14	*74.6%*	*47-130*	11/16/23	11/16/23
2-Fluorobiphenyl	*53.9%*	*34-130*	11/16/23	11/16/23
Phenol-d6	*43.9%*	*30-130*	11/16/23	11/16/23
2,4,6-Tribromophenol	*62.7%*	*30-130*	11/16/23	11/16/23
2-Fluorophenol	*41.5%*	*30-130*	11/16/23	11/16/23

Results: Semivolatile organic compounds

Sample: SS-6 / 0-1'

Lab Number: 3K15010-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		154	ug/kg	11/16/23	11/16/23
1,2-Dichlorobenzene	ND		154	ug/kg	11/16/23	11/16/23
1,3-Dichlorobenzene	ND		154	ug/kg	11/16/23	11/16/23
1,4-Dichlorobenzene	ND		154	ug/kg	11/16/23	11/16/23
Phenol	ND		154	ug/kg	11/16/23	11/16/23
2,4,5-Trichlorophenol	ND		154	ug/kg	11/16/23	11/16/23
2,4,6-Trichlorophenol	ND		154	ug/kg	11/16/23	11/16/23
2,4-Dichlorophenol	ND		154	ug/kg	11/16/23	11/16/23
2,4-Dimethylphenol	ND		392	ug/kg	11/16/23	11/16/23
2,4-Dinitrophenol	ND		392	ug/kg	11/16/23	11/16/23
2,4-Dinitrotoluene	ND		154	ug/kg	11/16/23	11/16/23
2,6-Dinitrotoluene	ND		154	ug/kg	11/16/23	11/16/23
2-Chloronaphthalene	ND		154	ug/kg	11/16/23	11/16/23
2-Chlorophenol	ND		154	ug/kg	11/16/23	11/16/23
2-Methylnaphthalene	ND		154	ug/kg	11/16/23	11/16/23
Nitrobenzene	ND		154	ug/kg	11/16/23	11/16/23
2-Methylphenol	ND		154	ug/kg	11/16/23	11/16/23
2-Nitroaniline	ND		154	ug/kg	11/16/23	11/16/23
2-Nitrophenol	ND		392	ug/kg	11/16/23	11/16/23
3,3'-Dichlorobenzidine	ND		392	ug/kg	11/16/23	11/16/23
3-Nitroaniline	ND		154	ug/kg	11/16/23	11/16/23
4,6-Dinitro-2-methylphenol	ND		392	ug/kg	11/16/23	11/16/23
4-Bromophenyl phenyl ether	ND		154	ug/kg	11/16/23	11/16/23
4-Chloro-3-methylphenol	ND		154	ug/kg	11/16/23	11/16/23
4-Chloroaniline	ND		154	ug/kg	11/16/23	11/16/23
4-Chlorophenyl phenyl ether	ND		154	ug/kg	11/16/23	11/16/23
4-Nitroaniline	ND		154	ug/kg	11/16/23	11/16/23
4-Nitrophenol	ND		392	ug/kg	11/16/23	11/16/23
Acenaphthene	ND		154	ug/kg	11/16/23	11/16/23
Acenaphthylene	ND		154	ug/kg	11/16/23	11/16/23
Aniline	ND		154	ug/kg	11/16/23	11/16/23
Anthracene	ND		154	ug/kg	11/16/23	11/16/23
Benzo(a)anthracene	**521**		154	ug/kg	11/16/23	11/16/23
Benzo(a)pyrene	**481**		154	ug/kg	11/16/23	11/16/23
Benzo(b)fluoranthene	**651**		154	ug/kg	11/16/23	11/16/23
Benzo(g,h,i)perylene	**412**		154	ug/kg	11/16/23	11/16/23
Benzo(k)fluoranthene	**256**		154	ug/kg	11/16/23	11/16/23
Benzoic acid	ND		1190	ug/kg	11/16/23	11/16/23
Biphenyl	ND		36	ug/kg	11/16/23	11/16/23
Bis(2-chloroethoxy)methane	ND		154	ug/kg	11/16/23	11/16/23
Bis(2-chloroethyl)ether	ND		154	ug/kg	11/16/23	11/16/23
Bis(2-chloroisopropyl)ether	ND		154	ug/kg	11/16/23	11/16/23
Bis(2-ethylhexyl)phthalate	ND		475	ug/kg	11/16/23	11/16/23
Butyl benzyl phthalate	ND		154	ug/kg	11/16/23	11/16/23
Chrysene	**458**		154	ug/kg	11/16/23	11/16/23
Di-n-octyl phthalate	ND		237	ug/kg	11/16/23	11/16/23
Dibenz(a,h)anthracene	ND		154	ug/kg	11/16/23	11/16/23
Dibenzofuran	ND		154	ug/kg	11/16/23	11/16

Results: Semivolatile organic compounds (Continued)

Sample: SS-6 / 0-1' (Continued)

Lab Number: 3K15010-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		154	ug/kg	11/16/23	11/16/23
Dimethyl phthalate	ND		392	ug/kg	11/16/23	11/16/23
Di-n-butyl phthalate	ND		237	ug/kg	11/16/23	11/16/23
Fluoranthene	**874**		154	ug/kg	11/16/23	11/16/23
Fluorene	ND		154	ug/kg	11/16/23	11/16/23
Hexachlorobenzene	ND		154	ug/kg	11/16/23	11/16/23
Hexachlorobutadiene	ND		154	ug/kg	11/16/23	11/16/23
Hexachlorocyclopentadiene	ND		392	ug/kg	11/16/23	11/16/23
Hexachloroethane	ND		154	ug/kg	11/16/23	11/16/23
Indeno(1,2,3-cd)pyrene	**437**		154	ug/kg	11/16/23	11/16/23
Isophorone	ND		154	ug/kg	11/16/23	11/16/23
Naphthalene	ND		154	ug/kg	11/16/23	11/16/23
N-Nitrosodimethylamine	ND		154	ug/kg	11/16/23	11/16/23
N-Nitrosodi-n-propylamine	ND		154	ug/kg	11/16/23	11/16/23
N-Nitrosodiphenylamine	ND		154	ug/kg	11/16/23	11/16/23
Pentachlorophenol	ND		392	ug/kg	11/16/23	11/16/23
Phenanthrene	**239**		154	ug/kg	11/16/23	11/16/23
Pyrene	**956**		154	ug/kg	11/16/23	11/16/23
m&p-Cresol	ND		309	ug/kg	11/16/23	11/16/23
Pyridine	ND		154	ug/kg	11/16/23	11/16/23
Azobenzene	ND		154	ug/kg	11/16/23	11/16/23
Total Dichlorobenzene	ND		154	ug/kg	11/16/23	11/16/23

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*64.6%*	*30-126*	11/16/23	11/16/23
p-Terphenyl-d14	*89.4%*	*47-130*	11/16/23	11/16/23
2-Fluorobiphenyl	*58.6%*	*34-130*	11/16/23	11/16/23
Phenol-d6	*48.8%*	*30-130*	11/16/23	11/16/23
2,4,6-Tribromophenol	*81.2%*	*30-130*	11/16/23	11/16/23
2-Fluorophenol	*46.9%*	*30-130*	11/16/23	11/16/23

Results: Semivolatile organic compounds

Sample: SS-7 / 0-1'

Lab Number: 3K15010-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		147	ug/kg	11/16/23	11/16/23
1,2-Dichlorobenzene	ND		147	ug/kg	11/16/23	11/16/23
1,3-Dichlorobenzene	ND		147	ug/kg	11/16/23	11/16/23
1,4-Dichlorobenzene	ND		147	ug/kg	11/16/23	11/16/23
Phenol	ND		147	ug/kg	11/16/23	11/16/23
2,4,5-Trichlorophenol	ND		147	ug/kg	11/16/23	11/16/23
2,4,6-Trichlorophenol	ND		147	ug/kg	11/16/23	11/16/23
2,4-Dichlorophenol	ND		147	ug/kg	11/16/23	11/16/23
2,4-Dimethylphenol	ND		373	ug/kg	11/16/23	11/16/23
2,4-Dinitrophenol	ND		373	ug/kg	11/16/23	11/16/23
2,4-Dinitrotoluene	ND		147	ug/kg	11/16/23	11/16/23
2,6-Dinitrotoluene	ND		147	ug/kg	11/16/23	11/16/23
2-Chloronaphthalene	ND		147	ug/kg	11/16/23	11/16/23
2-Chlorophenol	ND		147	ug/kg	11/16/23	11/16/23
2-Methylnaphthalene	ND		147	ug/kg	11/16/23	11/16/23
Nitrobenzene	ND		147	ug/kg	11/16/23	11/16/23
2-Methylphenol	ND		147	ug/kg	11/16/23	11/16/23
2-Nitroaniline	ND		147	ug/kg	11/16/23	11/16/23
2-Nitrophenol	ND		373	ug/kg	11/16/23	11/16/23
3,3'-Dichlorobenzidine	ND		373	ug/kg	11/16/23	11/16/23
3-Nitroaniline	ND		147	ug/kg	11/16/23	11/16/23
4,6-Dinitro-2-methylphenol	ND		373	ug/kg	11/16/23	11/16/23
4-Bromophenyl phenyl ether	ND		147	ug/kg	11/16/23	11/16/23
4-Chloro-3-methylphenol	ND		147	ug/kg	11/16/23	11/16/23
4-Chloroaniline	ND		147	ug/kg	11/16/23	11/16/23
4-Chlorophenyl phenyl ether	ND		147	ug/kg	11/16/23	11/16/23
4-Nitroaniline	ND		147	ug/kg	11/16/23	11/16/23
4-Nitrophenol	ND		373	ug/kg	11/16/23	11/16/23
Acenaphthene	ND		147	ug/kg	11/16/23	11/16/23
Acenaphthylene	ND		147	ug/kg	11/16/23	11/16/23
Aniline	ND		147	ug/kg	11/16/23	11/16/23
Anthracene	ND		147	ug/kg	11/16/23	11/16/23
Benzo(a)anthracene	ND		147	ug/kg	11/16/23	11/16/23
Benzo(a)pyrene	ND		147	ug/kg	11/16/23	11/16/23
Benzo(b)fluoranthene	ND		147	ug/kg	11/16/23	11/16/23
Benzo(g,h,i)perylene	ND		147	ug/kg	11/16/23	11/16/23
Benzo(k)fluoranthene	ND		147	ug/kg	11/16/23	11/16/23
Benzoic acid	ND		1130	ug/kg	11/16/23	11/16/23
Biphenyl	ND		34	ug/kg	11/16/23	11/16/23
Bis(2-chloroethoxy)methane	ND		147	ug/kg	11/16/23	11/16/23
Bis(2-chloroethyl)ether	ND		147	ug/kg	11/16/23	11/16/23
Bis(2-chloroisopropyl)ether	ND		147	ug/kg	11/16/23	11/16/23
Bis(2-ethylhexyl)phthalate	ND		452	ug/kg	11/16/23	11/16/23
Butyl benzyl phthalate	**1340**		147	ug/kg	11/16/23	11/16/23
Chrysene	ND		147	ug/kg	11/16/23	11/16/23
Di-n-octyl phthalate	ND		226	ug/kg	11/16/23	11/16/23
Dibenz(a,h)anthracene	ND		147	ug/kg	11/16/23	11/16/23
Dibenzofuran	ND		147	ug/kg	11/16/23	11/16/23

Results: Semivolatile organic compounds (Continued)

Sample: SS-7 / 0-1' (Continued)

Lab Number: 3K15010-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		147	ug/kg	11/16/23	11/16/23
Dimethyl phthalate	ND		373	ug/kg	11/16/23	11/16/23
Di-n-butyl phthalate	ND		226	ug/kg	11/16/23	11/16/23
Fluoranthene	ND		147	ug/kg	11/16/23	11/16/23
Fluorene	ND		147	ug/kg	11/16/23	11/16/23
Hexachlorobenzene	ND		147	ug/kg	11/16/23	11/16/23
Hexachlorobutadiene	ND		147	ug/kg	11/16/23	11/16/23
Hexachlorocyclopentadiene	ND		373	ug/kg	11/16/23	11/16/23
Hexachloroethane	ND		147	ug/kg	11/16/23	11/16/23
Indeno(1,2,3-cd)pyrene	ND		147	ug/kg	11/16/23	11/16/23
Isophorone	ND		147	ug/kg	11/16/23	11/16/23
Naphthalene	ND		147	ug/kg	11/16/23	11/16/23
N-Nitrosodimethylamine	ND		147	ug/kg	11/16/23	11/16/23
N-Nitrosodi-n-propylamine	ND		147	ug/kg	11/16/23	11/16/23
N-Nitrosodiphenylamine	ND		147	ug/kg	11/16/23	11/16/23
Pentachlorophenol	ND		373	ug/kg	11/16/23	11/16/23
Phenanthrene	ND		147	ug/kg	11/16/23	11/16/23
Pyrene	ND		147	ug/kg	11/16/23	11/16/23
m&p-Cresol	ND		294	ug/kg	11/16/23	11/16/23
Pyridine	ND		147	ug/kg	11/16/23	11/16/23
Azobenzene	ND		147	ug/kg	11/16/23	11/16/23
Total Dichlorobenzene	ND		147	ug/kg	11/16/23	11/16/23

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*60.9%*	*30-126*	11/16/23	11/16/23
p-Terphenyl-d14	*95.4%*	*47-130*	11/16/23	11/16/23
2-Fluorobiphenyl	*59.3%*	*34-130*	11/16/23	11/16/23
Phenol-d6	*51.0%*	*30-130*	11/16/23	11/16/23
2,4,6-Tribromophenol	*80.1%*	*30-130*	11/16/23	11/16/23
2-Fluorophenol	*45.7%*	*30-130*	11/16/23	11/16/23

Results: Semivolatile organic compounds

Sample: SS-13 / 0-1'

Lab Number: 3K15010-13 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		908	ug/kg	11/16/23	11/16/23
1,2-Dichlorobenzene	ND		908	ug/kg	11/16/23	11/16/23
1,3-Dichlorobenzene	ND		908	ug/kg	11/16/23	11/16/23
1,4-Dichlorobenzene	ND		908	ug/kg	11/16/23	11/16/23
Phenol	ND		908	ug/kg	11/16/23	11/16/23
2,4,5-Trichlorophenol	ND		908	ug/kg	11/16/23	11/16/23
2,4,6-Trichlorophenol	ND		908	ug/kg	11/16/23	11/16/23
2,4-Dichlorophenol	ND		908	ug/kg	11/16/23	11/16/23
2,4-Dimethylphenol	ND		2300	ug/kg	11/16/23	11/16/23
2,4-Dinitrophenol	ND		2300	ug/kg	11/16/23	11/16/23
2,4-Dinitrotoluene	ND		908	ug/kg	11/16/23	11/16/23
2,6-Dinitrotoluene	ND		908	ug/kg	11/16/23	11/16/23
2-Chloronaphthalene	ND		908	ug/kg	11/16/23	11/16/23
2-Chlorophenol	ND		908	ug/kg	11/16/23	11/16/23
2-Methylnaphthalene	ND		908	ug/kg	11/16/23	11/16/23
Nitrobenzene	ND		908	ug/kg	11/16/23	11/16/23
2-Methylphenol	ND		908	ug/kg	11/16/23	11/16/23
2-Nitroaniline	ND		908	ug/kg	11/16/23	11/16/23
2-Nitrophenol	ND		2300	ug/kg	11/16/23	11/16/23
3,3'-Dichlorobenzidine	ND		2300	ug/kg	11/16/23	11/16/23
3-Nitroaniline	ND		908	ug/kg	11/16/23	11/16/23
4,6-Dinitro-2-methylphenol	ND		2300	ug/kg	11/16/23	11/16/23
4-Bromophenyl phenyl ether	ND		908	ug/kg	11/16/23	11/16/23
4-Chloro-3-methylphenol	ND		908	ug/kg	11/16/23	11/16/23
4-Chloroaniline	ND		908	ug/kg	11/16/23	11/16/23
4-Chlorophenyl phenyl ether	ND		908	ug/kg	11/16/23	11/16/23
4-Nitroaniline	ND		908	ug/kg	11/16/23	11/16/23
4-Nitrophenol	ND		2300	ug/kg	11/16/23	11/16/23
Acenaphthene	ND		908	ug/kg	11/16/23	11/16/23
Acenaphthylene	ND		908	ug/kg	11/16/23	11/16/23
Aniline	ND		908	ug/kg	11/16/23	11/16/23
Anthracene	ND		908	ug/kg	11/16/23	11/16/23
Benzo(a)anthracene	ND		908	ug/kg	11/16/23	11/16/23
Benzo(a)pyrene	ND		908	ug/kg	11/16/23	11/16/23
Benzo(b)fluoranthene	ND		908	ug/kg	11/16/23	11/16/23
Benzo(g,h,i)perylene	ND		908	ug/kg	11/16/23	11/16/23
Benzo(k)fluoranthene	ND		908	ug/kg	11/16/23	11/16/23
Benzoic acid	ND		6980	ug/kg	11/16/23	11/16/23
Biphenyl	ND		209	ug/kg	11/16/23	11/16/23
Bis(2-chloroethoxy)methane	ND		908	ug/kg	11/16/23	11/16/23
Bis(2-chloroethyl)ether	ND		908	ug/kg	11/16/23	11/16/23
Bis(2-chloroisopropyl)ether	ND		908	ug/kg	11/16/23	11/16/23
Bis(2-ethylhexyl)phthalate	**8980**		2790	ug/kg	11/16/23	11/16/23
Butyl benzyl phthalate	**6860**		908	ug/kg	11/16/23	11/16/23
Chrysene	ND		908	ug/kg	11/16/23	11/16/23
Di-n-octyl phthalate	ND		1400	ug/kg	11/16/23	11/16/23
Dibenz(a,h)anthracene	ND		908	ug/kg	11/16/23	11/16/23
Dibenzofuran	ND		908	ug/kg	11/16/23	11/16/23

Results: Semivolatile organic compounds (Continued)

Sample: SS-13 / 0-1' (Continued)

Lab Number: 3K15010-13 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		908	ug/kg	11/16/23	11/16/23
Dimethyl phthalate	ND		2300	ug/kg	11/16/23	11/16/23
Di-n-butyl phthalate	ND		1400	ug/kg	11/16/23	11/16/23
Fluoranthene	ND		908	ug/kg	11/16/23	11/16/23
Fluorene	ND		908	ug/kg	11/16/23	11/16/23
Hexachlorobenzene	ND		908	ug/kg	11/16/23	11/16/23
Hexachlorobutadiene	ND		908	ug/kg	11/16/23	11/16/23
Hexachlorocyclopentadiene	ND		2300	ug/kg	11/16/23	11/16/23
Hexachloroethane	ND		908	ug/kg	11/16/23	11/16/23
Indeno(1,2,3-cd)pyrene	ND		908	ug/kg	11/16/23	11/16/23
Isophorone	ND		908	ug/kg	11/16/23	11/16/23
Naphthalene	ND		908	ug/kg	11/16/23	11/16/23
N-Nitrosodimethylamine	ND		908	ug/kg	11/16/23	11/16/23
N-Nitrosodi-n-propylamine	ND		908	ug/kg	11/16/23	11/16/23
N-Nitrosodiphenylamine	ND		908	ug/kg	11/16/23	11/16/23
Pentachlorophenol	ND		2300	ug/kg	11/16/23	11/16/23
Phenanthrene	ND		908	ug/kg	11/16/23	11/16/23
Pyrene	ND		908	ug/kg	11/16/23	11/16/23
m&p-Cresol	ND		1820	ug/kg	11/16/23	11/16/23
Pyridine	ND		908	ug/kg	11/16/23	11/16/23
Azobenzene	ND		908	ug/kg	11/16/23	11/16/23
Total Dichlorobenzene	ND		908	ug/kg	11/16/23	11/16/23

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*48.6%*	*30-126*	11/16/23	11/16/23
p-Terphenyl-d14	*75.0%*	*47-130*	11/16/23	11/16/23
2-Fluorobiphenyl	*51.6%*	*34-130*	11/16/23	11/16/23
Phenol-d6	*37.8%*	*30-130*	11/16/23	11/16/23
2,4,6-Tribromophenol	*64.6%*	*30-130*	11/16/23	11/16/23
2-Fluorophenol	*38.6%*	*30-130*	11/16/23	11/16/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-1 / 0-1'

Lab Number: 3K15010-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		77	ug/kg	11/16/23	11/22/23
Aroclor-1221	ND		77	ug/kg	11/16/23	11/22/23
Aroclor-1232	ND		77	ug/kg	11/16/23	11/22/23
Aroclor-1242	ND		77	ug/kg	11/16/23	11/22/23
Aroclor-1248	ND		77	ug/kg	11/16/23	11/22/23
Aroclor-1254	**5830**		385	ug/kg	11/16/23	11/22/23
Aroclor-1260	**4800**		385	ug/kg	11/16/23	11/22/23
Aroclor-1262	ND		385	ug/kg	11/16/23	11/22/23
Aroclor-1268	ND		385	ug/kg	11/16/23	11/22/23
PCBs (Total)	**10600**		385	ug/kg	11/16/23	11/22/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*51.4%*	*36.2-130*	11/16/23	11/22/23
Decachlorobiphenyl (DCBP)	*%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-2 / 0-1'

Lab Number: 3K15010-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1254	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		70	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		70	ug/kg	11/16/23	11/21/23
PCBs (Total)	ND		70	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*63.7%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*116%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-3 / 0-1'

Lab Number: 3K15010-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1254	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		83	ug/kg	11/16/23	11/21/23
PCBs (Total)	ND		83	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*46.4%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*63.7%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-4 / 0-1'

Lab Number: 3K15010-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		103	ug/kg	11/16/23	11/22/23
Aroclor-1221	ND		103	ug/kg	11/16/23	11/22/23
Aroclor-1232	ND		103	ug/kg	11/16/23	11/22/23
Aroclor-1242	ND		103	ug/kg	11/16/23	11/22/23
Aroclor-1248	ND		103	ug/kg	11/16/23	11/22/23
Aroclor-1254	**8830**		514	ug/kg	11/16/23	11/22/23
Aroclor-1260	**1990**		103	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		103	ug/kg	11/16/23	11/22/23
Aroclor-1268	ND		103	ug/kg	11/16/23	11/22/23
PCBs (Total)	**10800**		514	ug/kg	11/16/23	11/22/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*52.5%*	*36.2-130*	11/16/23	11/22/23
Decachlorobiphenyl (DCBP)	*94.0%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-5 / 0-1'

Lab Number: 3K15010-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		72	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		72	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		72	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		72	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		72	ug/kg	11/16/23	11/21/23
Aroclor-1254	**1070**		72	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		72	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		72	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		72	ug/kg	11/16/23	11/21/23
PCBs (Total)	**1070**		72	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*72.2%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*79.6%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-6 / 0-1'

Lab Number: 3K15010-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1254	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		77	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		77	ug/kg	11/16/23	11/21/23
PCBs (Total)	ND		77	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*50.2%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*69.0%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-7 / 0-1'

Lab Number: 3K15010-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1254	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		74	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		74	ug/kg	11/16/23	11/21/23
PCBs (Total)	ND		74	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*48.6%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*55.8%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-8 / 0-1'

Lab Number: 3K15010-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1254	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		75	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		75	ug/kg	11/16/23	11/21/23
PCBs (Total)	ND		75	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*53.5%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*72.0%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-9 / 0-1'

Lab Number: 3K15010-09 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1254	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		73	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		73	ug/kg	11/16/23	11/21/23
PCBs (Total)	ND		73	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*52.4%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*69.5%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-10 / 0-1'

Lab Number: 3K15010-10 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		86	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		86	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		86	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		86	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		86	ug/kg	11/16/23	11/21/23
Aroclor-1254	**264**		86	ug/kg	11/16/23	11/21/23
Aroclor-1260	**302**		86	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		86	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		86	ug/kg	11/16/23	11/21/23
PCBs (Total)	**567**		86	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*40.3%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*61.6%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-11 / 0-1'

Lab Number: 3K15010-11 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1254	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1260	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		83	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		83	ug/kg	11/16/23	11/21/23
PCBs (Total)	ND		83	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*56.5%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*82.3%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-12 / 0-1'

Lab Number: 3K15010-12 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		83	ug/kg	11/16/23	11/22/23
Aroclor-1221	ND		83	ug/kg	11/16/23	11/22/23
Aroclor-1232	ND		83	ug/kg	11/16/23	11/22/23
Aroclor-1242	ND		83	ug/kg	11/16/23	11/22/23
Aroclor-1248	ND		83	ug/kg	11/16/23	11/22/23
Aroclor-1254	**5290**		413	ug/kg	11/16/23	11/22/23
Aroclor-1260	**3260**		413	ug/kg	11/16/23	11/22/23
Aroclor-1262	ND		83	ug/kg	11/16/23	11/22/23
Aroclor-1268	ND		83	ug/kg	11/16/23	11/22/23
PCBs (Total)	**8560**		413	ug/kg	11/16/23	11/22/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*62.9%*	*36.2-130*	11/16/23	11/22/23
Decachlorobiphenyl (DCBP)	*%*	*43.3-130*	11/16/23	11/22/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-13 / 0-1'

Lab Number: 3K15010-13 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		90	ug/kg	11/16/23	11/21/23
Aroclor-1221	ND		90	ug/kg	11/16/23	11/21/23
Aroclor-1232	ND		90	ug/kg	11/16/23	11/21/23
Aroclor-1242	ND		90	ug/kg	11/16/23	11/21/23
Aroclor-1248	ND		90	ug/kg	11/16/23	11/21/23
Aroclor-1254	**1310**		90	ug/kg	11/16/23	11/21/23
Aroclor-1260	**1350**		90	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		90	ug/kg	11/16/23	11/21/23
Aroclor-1268	ND		90	ug/kg	11/16/23	11/21/23
PCBs (Total)	**2660**		90	ug/kg	11/16/23	11/21/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*43.2%*	*36.2-130*	11/16/23	11/21/23
Decachlorobiphenyl (DCBP)	*115%*	*43.3-130*	11/16/23	11/21/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-14 / 0-1'

Lab Number: 3K15010-14 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		84	ug/kg	11/16/23	11/22/23
Aroclor-1221	ND		84	ug/kg	11/16/23	11/22/23
Aroclor-1232	ND		84	ug/kg	11/16/23	11/22/23
Aroclor-1242	ND		84	ug/kg	11/16/23	11/22/23
Aroclor-1248	ND		84	ug/kg	11/16/23	11/22/23
Aroclor-1254	**3590**		419	ug/kg	11/16/23	11/22/23
Aroclor-1260	**1250**		84	ug/kg	11/16/23	11/21/23
Aroclor-1262	ND		84	ug/kg	11/16/23	11/22/23
Aroclor-1268	ND		84	ug/kg	11/16/23	11/22/23
PCBs (Total)	**4840**		84	ug/kg	11/16/23	11/22/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*98.9%*	*36.2-130*	11/16/23	11/22/23
Decachlorobiphenyl (DCBP)	*102%*	*43.3-130*	11/16/23	11/21/23

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0732 - Metals Digestion Soils										
Blank (B3K0732-BLK1)					Prepared: 11/16/23 Analyzed: 11/17/23					
Antimony	ND		0.66	mg/kg						
Zinc	ND		2.0	mg/kg						
Vanadium	ND		0.33	mg/kg						
Selenium	ND		1.00	mg/kg						
Lead	ND		0.50	mg/kg						
Nickel	ND		0.50	mg/kg						
Chromium	ND		0.50	mg/kg						
Cadmium	ND		0.50	mg/kg						
Beryllium	ND		0.33	mg/kg						
Barium	ND		0.33	mg/kg						
Arsenic	ND		1.00	mg/kg						
Silver	ND		1.00	mg/kg						
Thallium	ND		0.33	mg/kg						
LCS (B3K0732-BS1)					Prepared: 11/16/23 Analyzed: 11/17/23					
Zinc	98.0		2.0	mg/kg	100		98.0	85-115		
Antimony	102		0.66	mg/kg	100		102	85-115		
Vanadium	102		0.33	mg/kg	100		102	85-115		
Selenium	20.6		1.00	mg/kg	20.0		103	85-115		
Lead	99.5		0.50	mg/kg	100		99.5	85-115		
Nickel	95.2		0.50	mg/kg	100		95.2	85-112		
Chromium	99.8		0.50	mg/kg	100		99.8	85-115		
Cadmium	96.7		0.50	mg/kg	100		96.7	85-115		
Beryllium	20.9		0.33	mg/kg	20.0		105	85-115		
Barium	105		0.33	mg/kg	100		105	85-115		
Silver	40.0		1.00	mg/kg	40.0		99.9	85-115		
Arsenic	20.7		1.00	mg/kg	20.0		103	85-115		
Thallium	88.4		0.33	mg/kg	100		88.4	85-115		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0757 - Metals Cold-Vapor Mercury										
Blank (B3K0757-BLK1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	ND		0.100	mg/kg						
Blank (B3K0757-BLK2)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	ND		0.100	mg/kg						
Blank (B3K0757-BLK3)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	ND		0.100	mg/kg						
LCS (B3K0757-BS1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114		
LCS (B3K0757-BS2)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114		
LCS (B3K0757-BS3)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114		
LCS Dup (B3K0757-BSD1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114	0.00	200
LCS Dup (B3K0757-BSD2)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114	0.00	200
LCS Dup (B3K0757-BSD3)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114	0.00	200
Matrix Spike (B3K0757-MS1)		Source: 3K07005-01			Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.518		0.133	mg/kg dry	0.475	0.048	99.0	80-120		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0757 - Metals Cold-Vapor Mercury (Continued)										
Matrix Spike (B3K0757-MS2)	Source: 3K15011-05				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.547		0.149	mg/kg dry	0.531	0.019	99.4	80-120		
Matrix Spike (B3K0757-MS3)	Source: 3K15055-01				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.924		0.214	mg/kg dry	0.764	0.179	97.5	80-120		
Matrix Spike (B3K0757-MS4)	Source: 3K15010-08				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.590		0.158	mg/kg dry	0.563	0.050	95.9	80-120		
Matrix Spike Dup (B3K0757-MSD1)	Source: 3K07005-01				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.599		0.153	mg/kg dry	0.546	0.048	101	80-120	14.4	20
Matrix Spike Dup (B3K0757-MSD2)	Source: 3K15011-05				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.546		0.148	mg/kg dry	0.527	0.019	99.9	80-120	0.231	20
Matrix Spike Dup (B3K0757-MSD3)	Source: 3K15055-01				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.835		0.201	mg/kg dry	0.717	0.179	91.4	80-120	10.2	20

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0692 - 1_Semivolatiles Extractions										
Blank (B3K0692-BLK1)					Prepared & Analyzed: 11/16/23					
1,2,4-Trichlorobenzene	ND		129	ug/kg						
1,2-Dichlorobenzene	ND		129	ug/kg						
1,3-Dichlorobenzene	ND		129	ug/kg						
1,4-Dichlorobenzene	ND		129	ug/kg						
Phenol	ND		129	ug/kg						
2,4,5-Trichlorophenol	ND		129	ug/kg						
2,4,6-Trichlorophenol	ND		129	ug/kg						
2,4-Dichlorophenol	ND		129	ug/kg						
2,4-Dimethylphenol	ND		328	ug/kg						
2,4-Dinitrophenol	ND		328	ug/kg						
2,4-Dinitrotoluene	ND		129	ug/kg						
2,6-Dinitrotoluene	ND		129	ug/kg						
2-Chloronaphthalene	ND		129	ug/kg						
2-Chlorophenol	ND		129	ug/kg						
2-Methylnaphthalene	ND		129	ug/kg						
Nitrobenzene	ND		129	ug/kg						
2-Methylphenol	ND		129	ug/kg						
2-Nitroaniline	ND		129	ug/kg						
2-Nitrophenol	ND		328	ug/kg						
3,3'-Dichlorobenzidine	ND		328	ug/kg						
3-Nitroaniline	ND		129	ug/kg						
4,6-Dinitro-2-methylphenol	ND		328	ug/kg						
4-Bromophenyl phenyl ether	ND		129	ug/kg						
4-Chloro-3-methylphenol	ND		129	ug/kg						
4-Chloroaniline	ND		129	ug/kg						
4-Chlorophenyl phenyl ether	ND		129	ug/kg						
4-Nitroaniline	ND		129	ug/kg						
4-Nitrophenol	ND		328	ug/kg						
Acenaphthene	ND		129	ug/kg						
Acenaphthylene	ND		129	ug/kg						
Aniline	ND		129	ug/kg						
Anthracene	ND		129	ug/kg						
Benzo(a)anthracene	ND		129	ug/kg						
Benzo(a)pyrene	ND		129	ug/kg						
Benzo(b)fluoranthene	ND		129	ug/kg						
Benzo(g,h,i)perylene	ND		129	ug/kg						
Benzo(k)fluoranthene	ND		129	ug/kg						
Benzoic acid	ND		993	ug/kg						
Biphenyl	ND		30	ug/kg						
Bis(2-chloroethoxy)methane	ND		129	ug/kg						
Bis(2-chloroethyl)ether	ND		129	ug/kg						
Bis(2-chloroisopropyl)ether	ND		129	ug/kg						
Bis(2-ethylhexyl)phthalate	ND		397	ug/kg						
Butyl benzyl phthalate	ND		129	ug/kg						
Chrysene	ND		129	ug/kg						
Di-n-octyl phthalate	ND		199	ug/kg						
Dibenz(a,h)anthracene	ND		129	ug/kg						
Dibenzofuran	ND		129	ug/kg						
Diethyl phthalate	ND		129	ug/kg						
Dimethyl phthalate	ND		328	ug/kg						
Di-n-butyl phthalate	ND		199	ug/kg						
Fluoranthene	ND		129	ug/kg						
Fluorene	ND		129	ug/kg						
Hexachlorobenzene	ND		129	ug/kg						
Hexachlorobutadiene	ND		129	ug/kg						
Hexachlorocyclopentadiene	ND		328	ug/kg						
Hexachloroethane	ND		129	ug/kg						

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0692 - 1_Semivolatiles Extractions (Continued)										
Blank (B3K0692-BLK1)					Prepared & Analyzed: 11/16/23					
Indeno(1,2,3-cd)pyrene	ND		129	ug/kg						
Isophorone	ND		129	ug/kg						
Naphthalene	ND		129	ug/kg						
N-Nitrosodimethylamine	ND		129	ug/kg						
N-Nitrosodi-n-propylamine	ND		129	ug/kg						
N-Nitrosodiphenylamine	ND		129	ug/kg						
Pentachlorophenol	ND		328	ug/kg						
Phenanthrene	ND		129	ug/kg						
Pyrene	ND		129	ug/kg						
m&p-Cresol	ND		258	ug/kg						
Pyridine	ND		129	ug/kg						
Azobenzene	ND		129	ug/kg						
Total Dichlorobenzene	ND		129	ug/kg						
Surrogate: Nitrobenzene-d5			*4140*	ug/kg	*6620*		*62.5*	*30-126*		
Surrogate: p-Terphenyl-d14			*4520*	ug/kg	*6620*		*68.3*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*3520*	ug/kg	*6620*		*53.2*	*34-130*		
Surrogate: Phenol-d6			*2910*	ug/kg	*6620*		*44.0*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*3770*	ug/kg	*6620*		*56.9*	*30-130*		
Surrogate: 2-Fluorophenol			*2990*	ug/kg	*6620*		*45.1*	*30-130*		
LCS (B3K0692-BS1)					Prepared & Analyzed: 11/16/23					
1,2,4-Trichlorobenzene	2310		129	ug/kg	3310		69.8	40-130		
1,2-Dichlorobenzene	2350		129	ug/kg	3310		70.9	40-130		
1,3-Dichlorobenzene	2280		129	ug/kg	3310		68.9	40-130		
1,4-Dichlorobenzene	2230		129	ug/kg	3310		67.4	40-130		
Phenol	2180		129	ug/kg	3310		65.8	40-130		
2,4,5-Trichlorophenol	2310		129	ug/kg	3310		69.7	40-130		
2,4,6-Trichlorophenol	2380		129	ug/kg	3310		71.9	40-130		
2,4-Dichlorophenol	2470		129	ug/kg	3310		74.5	40-130		
2,4-Dimethylphenol	2210		328	ug/kg	3310		66.6	40-130		
2,4-Dinitrophenol	882		328	ug/kg	3310		26.6	15-140		
2,4-Dinitrotoluene	3090		129	ug/kg	3310		93.3	40-130		
2,6-Dinitrotoluene	2610		129	ug/kg	3310		78.8	40-130		
2-Chloronaphthalene	2350		129	ug/kg	3310		71.0	40-130		
2-Chlorophenol	2400		129	ug/kg	3310		72.5	40-130		
2-Methylnaphthalene	2490		129	ug/kg	3310		75.1	40-130		
Nitrobenzene	2760		129	ug/kg	3310		83.5	40-130		
2-Methylphenol	2430		129	ug/kg	3310		73.5	40-130		
2-Nitroaniline	3390		129	ug/kg	3310		102	40-130		
2-Nitrophenol	2720		328	ug/kg	3310		82.3	40-130		
3-Nitroaniline	2640		129	ug/kg	3310		79.7	40-130		
4,6-Dinitro-2-methylphenol	1760		328	ug/kg	3310		53.1	30-130		
4-Bromophenyl phenyl ether	2310		129	ug/kg	3310		69.8	40-130		
4-Chloro-3-methylphenol	2830		129	ug/kg	3310		85.4	40-130		
4-Chlorophenyl phenyl ether	3280		129	ug/kg	3310		99.1	40-130		
4-Nitroaniline	2430		129	ug/kg	3310		73.4	40-130		
4-Nitrophenol	4990		328	ug/kg	3310		151	40-130		
Acenaphthene	2510		129	ug/kg	3310		75.9	40-130		
Acenaphthylene	2650		129	ug/kg	3310		80.0	40-130		
Anthracene	2740		129	ug/kg	3310		82.8	40-130		
Benzo(a)anthracene	2600		129	ug/kg	3310		78.4	40-130		
Benzo(a)pyrene	2930		129	ug/kg	3310		88.5	40-130		
Benzo(b)fluoranthene	2930		129	ug/kg	3310		88.4	40-130		
Benzo(g,h,i)perylene	2740		129	ug/kg	3310		82.8	40-130		
Benzo(k)fluoranthene	3060		129	ug/kg	3310		92.5	40-130		
Biphenyl	609		30	ug/kg	828		73.5	40-130		
Bis(2-chloroethoxy)methane	2250		129	ug/kg	3310		68.1	40-130		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0692 - 1_Semivolatiles Extractions (Continued)										
LCS (B3K0692-BS1)					Prepared & Analyzed: 11/16/23					
Bis(2-chloroethyl)ether	2230		129	ug/kg	3310		67.4	40-130		
Bis(2-chloroisopropyl)ether	2060		129	ug/kg	3310		62.2	40-130		
Bis(2-ethylhexyl)phthalate	3610		397	ug/kg	3310		109	40-130		
Butyl benzyl phthalate	3360		129	ug/kg	3310		102	40-130		
Chrysene	2780		129	ug/kg	3310		84.0	40-130		
Di-n-octyl phthalate	3790		199	ug/kg	3310		114	40-130		
Dibenz(a,h)anthracene	2700		129	ug/kg	3310		81.5	40-130		
Dibenzofuran	2980		129	ug/kg	3310		90.0	40-130		
Diethyl phthalate	3120		129	ug/kg	3310		94.3	40-130		
Dimethyl phthalate	2640		328	ug/kg	3310		79.6	40-130		
Di-n-butyl phthalate	3330		199	ug/kg	3310		101	40-130		
Fluoranthene	2820		129	ug/kg	3310		85.1	40-130		
Fluorene	3170		129	ug/kg	3310		95.7	40-130		
Hexachlorobenzene	2200		129	ug/kg	3310		66.6	40-130		
Hexachlorobutadiene	3040		129	ug/kg	3310		91.9	40-130		
Hexachlorocyclopentadiene	1970		328	ug/kg	3310		59.4	40-130		
Hexachloroethane	3020		129	ug/kg	3310		91.1	40-130		
Indeno(1,2,3-cd)pyrene	2690		129	ug/kg	3310		81.4	40-130		
Isophorone	2590		129	ug/kg	3310		78.1	40-130		
Naphthalene	2490		129	ug/kg	3310		75.1	40-130		
N-Nitrosodimethylamine	3540		129	ug/kg	3310		107	40-130		
N-Nitrosodi-n-propylamine	3010		129	ug/kg	3310		90.9	40-130		
N-Nitrosodiphenylamine	2970		129	ug/kg	3310		89.6	40-130		
Pentachlorophenol	1750		328	ug/kg	3310		52.9	15-140		
Phenanthrene	2720		129	ug/kg	3310		82.1	40-130		
Pyrene	2840		129	ug/kg	3310		85.8	40-130		
m&p-Cresol	2580		258	ug/kg	3310		77.9	40-130		
Surrogate: Nitrobenzene-d5			*5050*	ug/kg	*6620*		*76.3*	*30-126*		
Surrogate: p-Terphenyl-d14			*5160*	ug/kg	*6620*		*77.9*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*4650*	ug/kg	*6620*		*70.2*	*34-130*		
Surrogate: Phenol-d6			*3900*	ug/kg	*6620*		*58.8*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*5610*	ug/kg	*6620*		*84.7*	*30-130*		
Surrogate: 2-Fluorophenol			*3880*	ug/kg	*6620*		*58.6*	*30-130*		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0692 - 1_Semivolatiles Extractions (Continued)										
LCS Dup (B3K0692-BSD1)					Prepared & Analyzed: 11/16/23					
1,2,4-Trichlorobenzene	2510		129	ug/kg	3310		75.9	40-130	8.40	30
1,2-Dichlorobenzene	2240		129	ug/kg	3310		67.6	40-130	4.79	30
1,3-Dichlorobenzene	2160		129	ug/kg	3310		65.4	40-130	5.18	30
1,4-Dichlorobenzene	2090		129	ug/kg	3310		63.2	40-130	6.40	30
Phenol	2070		129	ug/kg	3310		62.6	40-130	4.92	30
2,4,5-Trichlorophenol	2430		129	ug/kg	3310		73.4	40-130	5.15	30
2,4,6-Trichlorophenol	2420		129	ug/kg	3310		73.0	40-130	1.55	30
2,4-Dichlorophenol	2560		129	ug/kg	3310		77.5	40-130	3.95	30
2,4-Dimethylphenol	2290		328	ug/kg	3310		69.2	40-130	3.86	30
2,4-Dinitrophenol	967		328	ug/kg	3310		29.2	15-140	9.17	30
2,4-Dinitrotoluene	2970		129	ug/kg	3310		89.8	40-130	3.76	30
2,6-Dinitrotoluene	2550		129	ug/kg	3310		77.1	40-130	2.23	30
2-Chloronaphthalene	2250		129	ug/kg	3310		68.1	40-130	4.20	30
2-Chlorophenol	2280		129	ug/kg	3310		68.8	40-130	5.15	30
2-Methylnaphthalene	2480		129	ug/kg	3310		74.8	40-130	0.347	30
Nitrobenzene	2530		129	ug/kg	3310		76.5	40-130	8.72	30
2-Methylphenol	2380		129	ug/kg	3310		71.9	40-130	2.26	30
2-Nitroaniline	3360		129	ug/kg	3310		101	40-130	1.08	30
2-Nitrophenol	2740		328	ug/kg	3310		82.8	40-130	0.606	30
3-Nitroaniline	2600		129	ug/kg	3310		78.5	40-130	1.57	30
4,6-Dinitro-2-methylphenol	1890		328	ug/kg	3310		57.0	30-130	7.08	30
4-Bromophenyl phenyl ether	2400		129	ug/kg	3310		72.4	40-130	3.74	30
4-Chloro-3-methylphenol	2880		129	ug/kg	3310		86.9	40-130	1.81	30
4-Chlorophenyl phenyl ether	3080		129	ug/kg	3310		93.0	40-130	6.39	30
4-Nitroaniline	2310		129	ug/kg	3310		69.7	40-130	5.12	30
4-Nitrophenol	4460		328	ug/kg	3310		135	40-130	11.2	30
Acenaphthene	2410		129	ug/kg	3310		72.9	40-130	4.09	30
Acenaphthylene	2550		129	ug/kg	3310		77.0	40-130	3.75	30
Anthracene	2420		129	ug/kg	3310		73.1	40-130	12.4	30
Benzo(a)anthracene	2590		129	ug/kg	3310		78.2	40-130	0.281	30
Benzo(a)pyrene	2840		129	ug/kg	3310		85.8	40-130	3.10	30
Benzo(b)fluoranthene	3000		129	ug/kg	3310		90.5	40-130	2.35	30
Benzo(g,h,i)perylene	2800		129	ug/kg	3310		84.5	40-130	1.94	30
Benzo(k)fluoranthene	3030		129	ug/kg	3310		91.5	40-130	1.04	30
Biphenyl	606		30	ug/kg	828		73.2	40-130	0.436	30
Bis(2-chloroethoxy)methane	2270		129	ug/kg	3310		68.6	40-130	0.761	30
Bis(2-chloroethyl)ether	2100		129	ug/kg	3310		63.3	40-130	6.18	30
Bis(2-chloroisopropyl)ether	1940		129	ug/kg	3310		58.5	40-130	6.03	30
Bis(2-ethylhexyl)phthalate	3330		397	ug/kg	3310		100	40-130	8.19	30
Butyl benzyl phthalate	3030		129	ug/kg	3310		91.5	40-130	10.5	30
Chrysene	2740		129	ug/kg	3310		82.8	40-130	1.44	30
Di-n-octyl phthalate	3510		199	ug/kg	3310		106	40-130	7.51	30
Dibenz(a,h)anthracene	2800		129	ug/kg	3310		84.5	40-130	3.64	30
Dibenzofuran	2780		129	ug/kg	3310		84.0	40-130	6.99	30
Diethyl phthalate	2880		129	ug/kg	3310		87.1	40-130	7.94	30
Dimethyl phthalate	2610		328	ug/kg	3310		78.7	40-130	1.14	30
Di-n-butyl phthalate	2960		199	ug/kg	3310		89.4	40-130	11.7	30
Fluoranthene	2640		129	ug/kg	3310		79.8	40-130	6.35	30
Fluorene	2920		129	ug/kg	3310		88.1	40-130	8.27	30
Hexachlorobenzene	2280		129	ug/kg	3310		68.7	40-130	3.16	30
Hexachlorobutadiene	3170		129	ug/kg	3310		95.9	40-130	4.17	30
Hexachlorocyclopentadiene	2080		328	ug/kg	3310		62.9	40-130	5.66	30
Hexachloroethane	2930		129	ug/kg	3310		88.6	40-130	2.83	30
Indeno(1,2,3-cd)pyrene	2620		129	ug/kg	3310		79.2	40-130	2.74	30
Isophorone	2490		129	ug/kg	3310		75.2	40-130	3.78	30
Naphthalene	2470		129	ug/kg	3310		74.7	40-130	0.507	30
N-Nitrosodimethylamine	3260		129	ug/kg	3310		98.3	40-130	[illegible]	[illegible]

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0692 - 1_Semivolatiles Extractions (Continued)										
LCS Dup (B3K0692-BSD1)					Prepared & Analyzed: 11/16/23					
N-Nitrosodi-n-propylamine	2770		129	ug/kg	3310		83.7	40-130	8.20	30
N-Nitrosodiphenylamine	2920		129	ug/kg	3310		88.1	40-130	1.69	30
Pentachlorophenol	1960		328	ug/kg	3310		59.2	15-140	11.2	30
Phenanthrene	2610		129	ug/kg	3310		78.8	40-130	4.13	30
Pyrene	2540		129	ug/kg	3310		76.6	40-130	11.4	30
m&p-Cresol	2460		258	ug/kg	3310		74.4	40-130	4.65	30
Surrogate: Nitrobenzene-d5			*4670*	ug/kg	*6620*		*70.6*	*30-126*		
Surrogate: p-Terphenyl-d14			*4520*	ug/kg	*6620*		*68.3*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*4310*	ug/kg	*6620*		*65.0*	*34-130*		
Surrogate: Phenol-d6			*3800*	ug/kg	*6620*		*57.3*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*5820*	ug/kg	*6620*		*87.9*	*30-130*		
Surrogate: 2-Fluorophenol			*3680*	ug/kg	*6620*		*55.6*	*30-130*		

Quality Control
(Continued)

Polychlorinated Biphenyls (PCBs)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0701 - 1_Semivolatiles Extractions										
Blank (B3K0701-BLK1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Aroclor-1016	ND		66	ug/kg						
Aroclor-1221	ND		66	ug/kg						
Aroclor-1232	ND		66	ug/kg						
Aroclor-1242	ND		66	ug/kg						
Aroclor-1248	ND		66	ug/kg						
Aroclor-1254	ND		66	ug/kg						
Aroclor-1260	ND		66	ug/kg						
Aroclor-1262	ND		66	ug/kg						
Aroclor-1268	ND		66	ug/kg						
PCBs (Total)	ND		66	ug/kg						
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*10.5*	ug/kg	*26.7*		*39.2*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*18.7*	ug/kg	*26.7*		*70.1*	*43.3-130*		
LCS (B3K0701-BS1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Aroclor-1016	207		66	ug/kg	167		124	58.2-125		
Aroclor-1260	206		66	ug/kg	167		124	65.5-130		
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*12.8*	ug/kg	*26.7*		*48.1*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*22.2*	ug/kg	*26.7*		*83.1*	*43.3-130*		
LCS Dup (B3K0701-BSD1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Aroclor-1016	178		66	ug/kg	167		107	58.2-125	14.9	20
Aroclor-1260	197		66	ug/kg	167		118	65.5-130	4.44	20
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*10.6*	ug/kg	*26.7*		*39.8*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*20.1*	ug/kg	*26.7*		*75.5*	*43.3-130*		

Notes and Definitions

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

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

3 K 1 5010 G

PROJ. NO. 1843

PROJECT NAME/LOCATION: BARNES ROAD & CEDAR ROAD, SALEM, MA

CLIENT: BLACKSTONE ENVIRONMENTAL SOLUTIONS

REPORT TO:

INVOICE TO: MICHAEL BRICHER

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS**: MCP METALS	PCBs-8082A	SVOCs-8270				REMARKS
11/14/23	11:25	X		SS-1 / 0-1'		X		1	—	X	X					
	11:05			SS-2 / 0-1'						X	X					
	10:55			SS-3 / 0-1'						X	X					
	11:15			SS-4 / 0-1'						X	X					
	10:45			SS-5 / 0-1'						X	X	X				
	10:35			SS-6 / 0-1						X	X	X				
	11:55			SS-7 / 0-1'						X	X	X				
	11:35			SS-8 / 0-1'						X	X					
	11:45			SS-9 / 0-1'						X	X					
11/13/23	2:00			SS-10 / 0-1'						X	X					
	2:10			SS-11 / 0-1'						X	X					
	2:20			SS-12 / 0-1'						X	X					
	1:40			SS-13 / 0-1'						X	X	X				
	1:50			SS-14 / 0-1'						X	X					

	Date/Time		Date/Time
Sampled by: (Signature)		Received by: (Signature)	
[signature]	11/13-14/23 5:00 PM	BRS FRIDGE	11/13-14/23 5:00 PM
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	11/15/23 10AM	[signature]	11/15/23 10AM
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
[signature]	11/15/23 1600	[signature]	11/15 1600

Laboratory Remarks: 5
Temp. received: ____
Cooled ☐

Special Instructions:
List Specific Detection Limit Requirements:
MCP METHOD 1 S-1/GW-2/3 LIMITS

Turnaround (Business Days): NORMAL

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

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc. Project #: 1843

Project Location: Salem, MA RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 3K15010

Matrices: ☐ Groundwater/Surface Water ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☒	MassDEP VPH (GC/PID/FID) CAM IV A ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐
8270 SVOC CAM II B ☒	7010 Metals CAM III C ☐	MassDEP VPH (GC/MS) CAM IV C ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
6010 Metals CAM III A ☒	6020 Metals CAM III D ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐

Affirmative Responses to Questions A through F are 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 ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No
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 ☐ No
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 ☐ No
E	VPH, EPH, APH, and TO-15 only 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). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
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 ☐ No

Responses to Questions G, H and I below are 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 ☐ No[1]

***Data User Note*: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1]*All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: _____ **Position:** Laboratory Director

Printed Name: Richard Warila **Date**: 11/22/2023

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

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 3K15011
Client Project: 1843 - Barnes Rd & Cedar Rd, Salem

Report Date: 27-November-2023

Prepared for:

Michael Bricher
Blackstone Environmental Solutions
76 Bay View Drive
Shrewsbury, MA 01545



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

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 11/15/23. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 3K15011. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
3K15011-01	SS-15 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-02	SS-16 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-03	SS-17 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-04	SS-18 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-05	SS-19 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-06	SS-20 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-07	SS-21 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-08	SS-22 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-09	SS-23 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-10	SS-24 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-11	SS-25 / 0-1'	Soil	11/13/2023	11/15/2023
3K15011-12	SS-26 / 0-1'	Soil	11/14/2023	11/15/2023
3K15011-13	SS-27 / 0-1'	Soil	11/14/2023	11/15/2023
3K15011-14	SS-28 / 0-1'	Soil	11/14/2023	11/15/2023
3K15011-15	SS-29 / 0-1'	Soil	11/14/2023	11/15/2023
3K15011-16	SS-30 / 0-1'	Soil	11/14/2023	11/15/2023

Request for Analysis

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

SS-15 / 0-1' (Lab Number: 3K15011-01)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-16 / 0-1' (Lab Number: 3K15011-02)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-17 / 0-1' (Lab Number: 3K15011-03)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C

Request for Analysis (continued)

SS-17 / 0-1' (Lab Number: 3K15011-03) (continued)

Analysis	Method
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-18 / 0-1' (Lab Number: 3K15011-04)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-19 / 0-1' (Lab Number: 3K15011-05)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Request for Analysis (continued)

SS-20 / 0-1' (Lab Number: 3K15011-06)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-21 / 0-1' (Lab Number: 3K15011-07)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-22 / 0-1' (Lab Number: 3K15011-08)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Request for Analysis (continued)

SS-23 / 0-1' (Lab Number: 3K15011-09)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-24 / 0-1' (Lab Number: 3K15011-10)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-25 / 0-1' (Lab Number: 3K15011-11)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Request for Analysis (continued)

SS-26 / 0-1' (Lab Number: 3K15011-12)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-27 / 0-1' (Lab Number: 3K15011-13)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-28 / 0-1' (Lab Number: 3K15011-14)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Request for Analysis (continued)

SS-29 / 0-1' (Lab Number: 3K15011-15)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

SS-30 / 0-1' (Lab Number: 3K15011-16)

Analysis	Method
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
PCBs	EPA 8082A
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 6010C
Vanadium	EPA 6010C
Zinc	EPA 6010C

Method References

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

Case Narrative

Sample Receipt:

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

Exceptions: None

Analysis:

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

Exceptions: None

Results: Total Metals

Sample: SS-15 / 0-1'

Lab Number: 3K15011-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.78	mg/kg	11/16/23	11/22/23
Arsenic	**5.26**		1.18	mg/kg	11/16/23	11/22/23
Barium	**131**		0.39	mg/kg	11/16/23	11/22/23
Beryllium	**1.15**		0.39	mg/kg	11/16/23	11/22/23
Cadmium	**4.26**		0.59	mg/kg	11/16/23	11/22/23
Chromium	**11.6**		0.59	mg/kg	11/16/23	11/22/23
Lead	**155**		0.59	mg/kg	11/16/23	11/22/23
Mercury	ND		0.139	mg/kg	11/16/23	11/20/23
Nickel	**35.4**		0.59	mg/kg	11/16/23	11/22/23
Selenium	ND		1.18	mg/kg	11/16/23	11/22/23
Silver	ND		1.18	mg/kg	11/16/23	11/22/23
Vanadium	**37.8**		0.39	mg/kg	11/16/23	11/22/23
Zinc	**1760**		2.4	mg/kg	11/16/23	11/22/23
Thallium	ND		0.39	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-16 / 0-1'

Lab Number: 3K15011-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.82	mg/kg	11/16/23	11/22/23
Arsenic	**5.34**		1.24	mg/kg	11/16/23	11/22/23
Barium	**127**		0.41	mg/kg	11/16/23	11/22/23
Beryllium	**0.92**		0.41	mg/kg	11/16/23	11/22/23
Cadmium	**3.65**		0.62	mg/kg	11/16/23	11/22/23
Chromium	**12.8**		0.62	mg/kg	11/16/23	11/22/23
Lead	**189**		0.62	mg/kg	11/16/23	11/22/23
Mercury	ND		0.152	mg/kg	11/16/23	11/20/23
Nickel	**27.4**		0.62	mg/kg	11/16/23	11/22/23
Selenium	ND		1.24	mg/kg	11/16/23	11/22/23
Silver	ND		1.24	mg/kg	11/16/23	11/22/23
Vanadium	**27.3**		0.41	mg/kg	11/16/23	11/22/23
Zinc	**593**		2.5	mg/kg	11/16/23	11/22/23
Thallium	ND		0.41	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-17 / 0-1'

Lab Number: 3K15011-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.80	mg/kg	11/16/23	11/22/23
Arsenic	**3.70**		1.21	mg/kg	11/16/23	11/22/23
Barium	**36.5**		0.40	mg/kg	11/16/23	11/22/23
Beryllium	**0.74**		0.40	mg/kg	11/16/23	11/22/23
Cadmium	**0.77**		0.61	mg/kg	11/16/23	11/22/23
Chromium	**6.57**		0.61	mg/kg	11/16/23	11/22/23
Lead	**104**		0.61	mg/kg	11/16/23	11/22/23
Mercury	ND		0.159	mg/kg	11/16/23	11/20/23
Nickel	**9.43**		0.61	mg/kg	11/16/23	11/22/23
Selenium	ND		1.21	mg/kg	11/16/23	11/22/23
Silver	ND		1.21	mg/kg	11/16/23	11/22/23
Vanadium	**20.1**		0.40	mg/kg	11/16/23	11/22/23
Zinc	**129**		2.4	mg/kg	11/16/23	11/22/23
Thallium	ND		0.40	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-18 / 0-1'

Lab Number: 3K15011-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.91	mg/kg	11/16/23	11/22/23
Arsenic	**6.15**		1.38	mg/kg	11/16/23	11/22/23
Barium	**123**		0.46	mg/kg	11/16/23	11/22/23
Beryllium	**1.04**		0.46	mg/kg	11/16/23	11/22/23
Cadmium	**3.32**		0.69	mg/kg	11/16/23	11/22/23
Chromium	**15.9**		0.69	mg/kg	11/16/23	11/22/23
Lead	**200**		0.69	mg/kg	11/16/23	11/22/23
Mercury	ND		0.162	mg/kg	11/16/23	11/20/23
Nickel	**38.1**		0.69	mg/kg	11/16/23	11/22/23
Selenium	ND		1.38	mg/kg	11/16/23	11/22/23
Silver	ND		1.38	mg/kg	11/16/23	11/22/23
Vanadium	**37.7**		0.46	mg/kg	11/16/23	11/22/23
Zinc	**942**		2.8	mg/kg	11/16/23	11/22/23
Thallium	ND		0.46	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-19 / 0-1'

Lab Number: 3K15011-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.77	mg/kg	11/16/23	11/22/23
Arsenic	**2.41**		1.17	mg/kg	11/16/23	11/22/23
Barium	**24.8**		0.38	mg/kg	11/16/23	11/22/23
Beryllium	**0.80**		0.38	mg/kg	11/16/23	11/22/23
Cadmium	ND		0.58	mg/kg	11/16/23	11/22/23
Chromium	**5.22**		0.58	mg/kg	11/16/23	11/22/23
Lead	**24.0**		0.58	mg/kg	11/16/23	11/22/23
Mercury	ND		0.148	mg/kg	11/16/23	11/20/23
Nickel	**7.73**		0.58	mg/kg	11/16/23	11/22/23
Selenium	ND		1.17	mg/kg	11/16/23	11/22/23
Silver	ND		1.17	mg/kg	11/16/23	11/22/23
Vanadium	**18.2**		0.38	mg/kg	11/16/23	11/22/23
Zinc	**87.4**		2.3	mg/kg	11/16/23	11/22/23
Thallium	ND		0.38	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-20 / 0-1'

Lab Number: 3K15011-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.98	mg/kg	11/16/23	11/22/23
Arsenic	**10.5**		1.49	mg/kg	11/16/23	11/22/23
Barium	**321**		0.49	mg/kg	11/16/23	11/22/23
Beryllium	**1.19**		0.49	mg/kg	11/16/23	11/22/23
Cadmium	**9.40**		0.74	mg/kg	11/16/23	11/22/23
Chromium	**24.2**		0.74	mg/kg	11/16/23	11/22/23
Lead	**493**		0.74	mg/kg	11/16/23	11/22/23
Mercury	**0.361**		0.169	mg/kg	11/16/23	11/20/23
Nickel	**74.0**		0.74	mg/kg	11/16/23	11/22/23
Selenium	ND		1.49	mg/kg	11/16/23	11/22/23
Silver	ND		1.49	mg/kg	11/16/23	11/22/23
Vanadium	**39.6**		0.49	mg/kg	11/16/23	11/22/23
Zinc	**2870**		3.0	mg/kg	11/16/23	11/22/23
Thallium	ND		0.49	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-21 / 0-1'

Lab Number: 3K15011-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.83	mg/kg	11/16/23	11/22/23
Arsenic	**2.85**		1.26	mg/kg	11/16/23	11/22/23
Barium	**43.2**		0.41	mg/kg	11/16/23	11/22/23
Beryllium	**1.06**		0.41	mg/kg	11/16/23	11/22/23
Cadmium	**2.39**		0.63	mg/kg	11/16/23	11/22/23
Chromium	**6.24**		0.63	mg/kg	11/16/23	11/22/23
Lead	**38.1**		0.63	mg/kg	11/16/23	11/22/23
Mercury	ND		0.136	mg/kg	11/16/23	11/20/23
Nickel	**19.8**		0.63	mg/kg	11/16/23	11/22/23
Selenium	ND		1.26	mg/kg	11/16/23	11/22/23
Silver	ND		1.26	mg/kg	11/16/23	11/22/23
Vanadium	**37.8**		0.41	mg/kg	11/16/23	11/22/23
Zinc	**458**		2.5	mg/kg	11/16/23	11/22/23
Thallium	ND		0.41	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-22 / 0-1'

Lab Number: 3K15011-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.88	mg/kg	11/16/23	11/22/23
Arsenic	**4.40**		1.34	mg/kg	11/16/23	11/22/23
Barium	**278**		0.44	mg/kg	11/16/23	11/22/23
Beryllium	**1.19**		0.44	mg/kg	11/16/23	11/22/23
Cadmium	**1.38**		0.67	mg/kg	11/16/23	11/22/23
Chromium	**16.2**		0.67	mg/kg	11/16/23	11/22/23
Lead	**76.5**		0.67	mg/kg	11/16/23	11/22/23
Mercury	ND		0.155	mg/kg	11/16/23	11/20/23
Nickel	**39.6**		0.67	mg/kg	11/16/23	11/22/23
Selenium	ND		1.34	mg/kg	11/16/23	11/22/23
Silver	ND		1.34	mg/kg	11/16/23	11/22/23
Vanadium	**46.4**		0.44	mg/kg	11/16/23	11/22/23
Zinc	**215**		2.7	mg/kg	11/16/23	11/22/23
Thallium	ND		0.44	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-23 / 0-1'

Lab Number: 3K15011-09 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.95	mg/kg	11/16/23	11/22/23
Arsenic	**4.22**		1.44	mg/kg	11/16/23	11/22/23
Barium	**74.2**		0.48	mg/kg	11/16/23	11/22/23
Beryllium	**2.15**		0.48	mg/kg	11/16/23	11/22/23
Cadmium	**1.91**		0.72	mg/kg	11/16/23	11/22/23
Chromium	**4.01**		0.72	mg/kg	11/16/23	11/22/23
Lead	**28.7**		0.72	mg/kg	11/16/23	11/22/23
Mercury	ND		0.163	mg/kg	11/16/23	11/20/23
Nickel	**5.95**		0.72	mg/kg	11/16/23	11/22/23
Selenium	ND		1.44	mg/kg	11/16/23	11/22/23
Silver	ND		1.44	mg/kg	11/16/23	11/22/23
Vanadium	**84.5**		0.48	mg/kg	11/16/23	11/22/23
Zinc	**129**		2.9	mg/kg	11/16/23	11/22/23
Thallium	ND		0.48	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-24 / 0-1'

Lab Number: 3K15011-10 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	**27.5**		0.99	mg/kg	11/16/23	11/22/23
Arsenic	**29.7**		1.51	mg/kg	11/16/23	11/22/23
Barium	**812**		0.50	mg/kg	11/16/23	11/22/23
Beryllium	**0.83**		0.50	mg/kg	11/16/23	11/22/23
Cadmium	**26.1**		0.75	mg/kg	11/16/23	11/22/23
Chromium	**81.8**		0.75	mg/kg	11/16/23	11/22/23
Lead	**2060**		0.75	mg/kg	11/16/23	11/22/23
Mercury	ND		1.64	mg/kg	11/16/23	11/20/23
Nickel	**270**		0.75	mg/kg	11/16/23	11/22/23
Selenium	ND		1.51	mg/kg	11/16/23	11/22/23
Silver	ND		1.51	mg/kg	11/16/23	11/22/23
Vanadium	**34.5**		0.50	mg/kg	11/16/23	11/22/23
Zinc	**7110**		3.0	mg/kg	11/16/23	11/22/23
Thallium	ND		0.50	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-25 / 0-1'

Lab Number: 3K15011-11 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.79	mg/kg	11/16/23	11/22/23
Arsenic	**3.77**		1.20	mg/kg	11/16/23	11/22/23
Barium	**38.6**		0.39	mg/kg	11/16/23	11/22/23
Beryllium	**1.01**		0.39	mg/kg	11/16/23	11/22/23
Cadmium	**1.30**		0.60	mg/kg	11/16/23	11/22/23
Chromium	**10.1**		0.60	mg/kg	11/16/23	11/22/23
Lead	**67.9**		0.60	mg/kg	11/16/23	11/22/23
Mercury	ND		0.148	mg/kg	11/16/23	11/20/23
Nickel	**12.9**		0.60	mg/kg	11/16/23	11/22/23
Selenium	ND		1.20	mg/kg	11/16/23	11/22/23
Silver	ND		1.20	mg/kg	11/16/23	11/22/23
Vanadium	**33.0**		0.39	mg/kg	11/16/23	11/22/23
Zinc	**193**		2.4	mg/kg	11/16/23	11/22/23
Thallium	ND		0.39	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-26 / 0-1'

Lab Number: 3K15011-12 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		1.00	mg/kg	11/16/23	11/22/23
Arsenic	**13.2**		1.51	mg/kg	11/16/23	11/22/23
Barium	**1270**		0.50	mg/kg	11/16/23	11/22/23
Beryllium	**1.68**		0.50	mg/kg	11/16/23	11/22/23
Cadmium	**14.8**		0.76	mg/kg	11/16/23	11/22/23
Chromium	**46.0**		0.76	mg/kg	11/16/23	11/22/23
Lead	**1190**		0.76	mg/kg	11/16/23	11/22/23
Mercury	**0.868**		0.160	mg/kg	11/16/23	11/20/23
Nickel	**1970**		0.76	mg/kg	11/16/23	11/22/23
Selenium	ND		1.51	mg/kg	11/16/23	11/22/23
Silver	ND		1.51	mg/kg	11/16/23	11/22/23
Vanadium	**71.2**		0.50	mg/kg	11/16/23	11/22/23
Zinc	**6570**		3.0	mg/kg	11/16/23	11/22/23
Thallium	ND		0.50	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-27 / 0-1'

Lab Number: 3K15011-13 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	**231**		1.04	mg/kg	11/16/23	11/22/23
Arsenic	**35.3**		1.58	mg/kg	11/16/23	11/22/23
Barium	**1250**		0.52	mg/kg	11/16/23	11/22/23
Beryllium	ND		0.52	mg/kg	11/16/23	11/22/23
Cadmium	**47.7**		0.79	mg/kg	11/16/23	11/22/23
Chromium	**113**		0.79	mg/kg	11/16/23	11/22/23
Lead	**3670**		0.79	mg/kg	11/16/23	11/22/23
Mercury	**1.84**		1.77	mg/kg	11/16/23	11/20/23
Nickel	**3230**		0.79	mg/kg	11/16/23	11/22/23
Selenium	ND		1.58	mg/kg	11/16/23	11/22/23
Silver	ND		1.58	mg/kg	11/16/23	11/22/23
Vanadium	**26.4**		0.52	mg/kg	11/16/23	11/22/23
Zinc	**17100**		3.2	mg/kg	11/16/23	11/22/23
Thallium	ND		0.52	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-28 / 0-1'

Lab Number: 3K15011-14 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	**5.77**		1.03	mg/kg	11/16/23	11/22/23
Arsenic	**20.9**		1.56	mg/kg	11/16/23	11/22/23
Barium	**460**		0.51	mg/kg	11/16/23	11/22/23
Beryllium	ND		0.51	mg/kg	11/16/23	11/22/23
Cadmium	**19.8**		0.78	mg/kg	11/16/23	11/22/23
Chromium	**64.7**		0.78	mg/kg	11/16/23	11/22/23
Lead	**967**		0.78	mg/kg	11/16/23	11/22/23
Mercury	**2.29**		1.63	mg/kg	11/16/23	11/20/23
Nickel	**2100**		0.78	mg/kg	11/16/23	11/22/23
Selenium	ND		1.56	mg/kg	11/16/23	11/22/23
Silver	ND		1.56	mg/kg	11/16/23	11/22/23
Vanadium	**16.1**		0.51	mg/kg	11/16/23	11/22/23
Zinc	**2110**		3.1	mg/kg	11/16/23	11/22/23
Thallium	ND		0.51	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-29 / 0-1'

Lab Number: 3K15011-15 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		1.00	mg/kg	11/16/23	11/22/23
Arsenic	**30.3**		1.51	mg/kg	11/16/23	11/22/23
Barium	**1370**		0.50	mg/kg	11/16/23	11/22/23
Beryllium	ND		0.50	mg/kg	11/16/23	11/22/23
Cadmium	**43.2**		0.76	mg/kg	11/16/23	11/22/23
Chromium	**142**		0.76	mg/kg	11/16/23	11/22/23
Lead	**2820**		0.76	mg/kg	11/16/23	11/22/23
Mercury	ND		1.58	mg/kg	11/16/23	11/20/23
Nickel	**347**		0.76	mg/kg	11/16/23	11/22/23
Selenium	ND		1.51	mg/kg	11/16/23	11/22/23
Silver	ND		1.51	mg/kg	11/16/23	11/22/23
Vanadium	**21.3**		0.50	mg/kg	11/16/23	11/22/23
Zinc	**9760**		3.0	mg/kg	11/16/23	11/22/23
Thallium	ND		0.50	mg/kg	11/16/23	11/22/23

Results: Total Metals

Sample: SS-30 / 0-1'

Lab Number: 3K15011-16 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.85	mg/kg	11/16/23	11/22/23
Arsenic	**5.33**		1.29	mg/kg	11/16/23	11/22/23
Barium	**59.9**		0.42	mg/kg	11/16/23	11/22/23
Beryllium	**0.79**		0.42	mg/kg	11/16/23	11/22/23
Cadmium	**2.74**		0.64	mg/kg	11/16/23	11/22/23
Chromium	**14.4**		0.64	mg/kg	11/16/23	11/22/23
Lead	**254**		0.64	mg/kg	11/16/23	11/22/23
Mercury	ND		0.162	mg/kg	11/16/23	11/20/23
Nickel	**20.0**		0.64	mg/kg	11/16/23	11/22/23
Selenium	ND		1.29	mg/kg	11/16/23	11/22/23
Silver	ND		1.29	mg/kg	11/16/23	11/22/23
Vanadium	**20.6**		0.42	mg/kg	11/16/23	11/22/23
Zinc	**519**		2.6	mg/kg	11/16/23	11/22/23
Thallium	ND		0.42	mg/kg	11/16/23	11/22/23

Results: Semivolatile organic compounds

Sample: SS-18 / 0-1'

Lab Number: 3K15011-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		794	ug/kg	11/17/23	11/20/23
1,2-Dichlorobenzene	ND		794	ug/kg	11/17/23	11/20/23
1,3-Dichlorobenzene	ND		794	ug/kg	11/17/23	11/20/23
1,4-Dichlorobenzene	ND		794	ug/kg	11/17/23	11/20/23
Phenol	ND		794	ug/kg	11/17/23	11/20/23
2,4,5-Trichlorophenol	ND		794	ug/kg	11/17/23	11/20/23
2,4,6-Trichlorophenol	ND		794	ug/kg	11/17/23	11/20/23
2,4-Dichlorophenol	ND		794	ug/kg	11/17/23	11/20/23
2,4-Dimethylphenol	ND		2020	ug/kg	11/17/23	11/20/23
2,4-Dinitrophenol	ND		2020	ug/kg	11/17/23	11/20/23
2,4-Dinitrotoluene	ND		794	ug/kg	11/17/23	11/20/23
2,6-Dinitrotoluene	ND		794	ug/kg	11/17/23	11/20/23
2-Chloronaphthalene	ND		794	ug/kg	11/17/23	11/20/23
2-Chlorophenol	ND		794	ug/kg	11/17/23	11/20/23
2-Methylnaphthalene	ND		794	ug/kg	11/17/23	11/20/23
Nitrobenzene	ND		794	ug/kg	11/17/23	11/20/23
2-Methylphenol	ND		794	ug/kg	11/17/23	11/20/23
2-Nitroaniline	ND		794	ug/kg	11/17/23	11/20/23
2-Nitrophenol	ND		2020	ug/kg	11/17/23	11/20/23
3,3'-Dichlorobenzidine	ND		2020	ug/kg	11/17/23	11/20/23
3-Nitroaniline	ND		794	ug/kg	11/17/23	11/20/23
4,6-Dinitro-2-methylphenol	ND		2020	ug/kg	11/17/23	11/20/23
4-Bromophenyl phenyl ether	ND		794	ug/kg	11/17/23	11/20/23
4-Chloro-3-methylphenol	ND		794	ug/kg	11/17/23	11/20/23
4-Chloroaniline	ND		794	ug/kg	11/17/23	11/20/23
4-Chlorophenyl phenyl ether	ND		794	ug/kg	11/17/23	11/20/23
4-Nitroaniline	ND		794	ug/kg	11/17/23	11/20/23
4-Nitrophenol	ND		2020	ug/kg	11/17/23	11/20/23
Acenaphthene	ND		794	ug/kg	11/17/23	11/20/23
Acenaphthylene	ND		794	ug/kg	11/17/23	11/20/23
Aniline	ND		794	ug/kg	11/17/23	11/20/23
Anthracene	ND		794	ug/kg	11/17/23	11/20/23
Benzo(a)anthracene	ND		794	ug/kg	11/17/23	11/20/23
Benzo(a)pyrene	ND		794	ug/kg	11/17/23	11/20/23
Benzo(b)fluoranthene	ND		794	ug/kg	11/17/23	11/20/23
Benzo(g,h,i)perylene	ND		794	ug/kg	11/17/23	11/20/23
Benzo(k)fluoranthene	ND		794	ug/kg	11/17/23	11/20/23
Benzoic acid	ND		6110	ug/kg	11/17/23	11/20/23
Biphenyl	ND		183	ug/kg	11/17/23	11/20/23
Bis(2-chloroethoxy)methane	ND		794	ug/kg	11/17/23	11/20/23
Bis(2-chloroethyl)ether	ND		794	ug/kg	11/17/23	11/20/23
Bis(2-chloroisopropyl)ether	ND		794	ug/kg	11/17/23	11/20/23
Bis(2-ethylhexyl)phthalate	**2740**		2440	ug/kg	11/17/23	11/20/23
Butyl benzyl phthalate	**3100**		794	ug/kg	11/17/23	11/20/23
Chrysene	ND		794	ug/kg	11/17/23	11/20/23
Di-n-octyl phthalate	ND		1220	ug/kg	11/17/23	11/20/23
Dibenz(a,h)anthracene	ND		794	ug/kg	11/17/23	11/20/23
Dibenzofuran	ND		794	ug/kg	11/17/23	11/20/23

Results: Semivolatile organic compounds (Continued)

Sample: SS-18 / 0-1' (Continued)

Lab Number: 3K15011-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		794	ug/kg	11/17/23	11/20/23
Dimethyl phthalate	ND		2020	ug/kg	11/17/23	11/20/23
Di-n-butyl phthalate	ND		1220	ug/kg	11/17/23	11/20/23
Fluoranthene	ND		794	ug/kg	11/17/23	11/20/23
Fluorene	ND		794	ug/kg	11/17/23	11/20/23
Hexachlorobenzene	ND		794	ug/kg	11/17/23	11/20/23
Hexachlorobutadiene	ND		794	ug/kg	11/17/23	11/20/23
Hexachlorocyclopentadiene	ND		2020	ug/kg	11/17/23	11/20/23
Hexachloroethane	ND		794	ug/kg	11/17/23	11/20/23
Indeno(1,2,3-cd)pyrene	ND		794	ug/kg	11/17/23	11/20/23
Isophorone	ND		794	ug/kg	11/17/23	11/20/23
Naphthalene	ND		794	ug/kg	11/17/23	11/20/23
N-Nitrosodimethylamine	ND		794	ug/kg	11/17/23	11/20/23
N-Nitrosodi-n-propylamine	ND		794	ug/kg	11/17/23	11/20/23
N-Nitrosodiphenylamine	ND		794	ug/kg	11/17/23	11/20/23
Pentachlorophenol	ND		2020	ug/kg	11/17/23	11/20/23
Phenanthrene	ND		794	ug/kg	11/17/23	11/20/23
Pyrene	ND		794	ug/kg	11/17/23	11/20/23
m&p-Cresol	ND		1590	ug/kg	11/17/23	11/20/23
Pyridine	ND		794	ug/kg	11/17/23	11/20/23
Azobenzene	ND		794	ug/kg	11/17/23	11/20/23
Total Dichlorobenzene	ND		794	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*79.7%*	*30-126*	11/17/23	11/20/23
p-Terphenyl-d14	*91.8%*	*47-130*	11/17/23	11/20/23
2-Fluorobiphenyl	*69.1%*	*34-130*	11/17/23	11/20/23
Phenol-d6	*62.3%*	*30-130*	11/17/23	11/20/23
2,4,6-Tribromophenol	*77.8%*	*30-130*	11/17/23	11/20/23
2-Fluorophenol	*52.2%*	*30-130*	11/17/23	11/20/23

Results: Semivolatile organic compounds

Sample: SS-22 / 0-1'

Lab Number: 3K15011-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		147	ug/kg	11/17/23	11/20/23
1,2-Dichlorobenzene	ND		147	ug/kg	11/17/23	11/20/23
1,3-Dichlorobenzene	ND		147	ug/kg	11/17/23	11/20/23
1,4-Dichlorobenzene	ND		147	ug/kg	11/17/23	11/20/23
Phenol	ND		147	ug/kg	11/17/23	11/20/23
2,4,5-Trichlorophenol	ND		147	ug/kg	11/17/23	11/20/23
2,4,6-Trichlorophenol	ND		147	ug/kg	11/17/23	11/20/23
2,4-Dichlorophenol	ND		147	ug/kg	11/17/23	11/20/23
2,4-Dimethylphenol	ND		373	ug/kg	11/17/23	11/20/23
2,4-Dinitrophenol	ND		373	ug/kg	11/17/23	11/20/23
2,4-Dinitrotoluene	ND		147	ug/kg	11/17/23	11/20/23
2,6-Dinitrotoluene	ND		147	ug/kg	11/17/23	11/20/23
2-Chloronaphthalene	ND		147	ug/kg	11/17/23	11/20/23
2-Chlorophenol	ND		147	ug/kg	11/17/23	11/20/23
2-Methylnaphthalene	ND		147	ug/kg	11/17/23	11/20/23
Nitrobenzene	ND		147	ug/kg	11/17/23	11/20/23
2-Methylphenol	ND		147	ug/kg	11/17/23	11/20/23
2-Nitroaniline	ND		147	ug/kg	11/17/23	11/20/23
2-Nitrophenol	ND		373	ug/kg	11/17/23	11/20/23
3,3'-Dichlorobenzidine	ND		373	ug/kg	11/17/23	11/20/23
3-Nitroaniline	ND		147	ug/kg	11/17/23	11/20/23
4,6-Dinitro-2-methylphenol	ND		373	ug/kg	11/17/23	11/20/23
4-Bromophenyl phenyl ether	ND		147	ug/kg	11/17/23	11/20/23
4-Chloro-3-methylphenol	ND		147	ug/kg	11/17/23	11/20/23
4-Chloroaniline	ND		147	ug/kg	11/17/23	11/20/23
4-Chlorophenyl phenyl ether	ND		147	ug/kg	11/17/23	11/20/23
4-Nitroaniline	ND		147	ug/kg	11/17/23	11/20/23
4-Nitrophenol	ND		373	ug/kg	11/17/23	11/20/23
Acenaphthene	ND		147	ug/kg	11/17/23	11/20/23
Acenaphthylene	ND		147	ug/kg	11/17/23	11/20/23
Aniline	ND		147	ug/kg	11/17/23	11/20/23
Anthracene	ND		147	ug/kg	11/17/23	11/20/23
Benzo(a)anthracene	ND		147	ug/kg	11/17/23	11/20/23
Benzo(a)pyrene	ND		147	ug/kg	11/17/23	11/20/23
Benzo(b)fluoranthene	ND		147	ug/kg	11/17/23	11/20/23
Benzo(g,h,i)perylene	ND		147	ug/kg	11/17/23	11/20/23
Benzo(k)fluoranthene	ND		147	ug/kg	11/17/23	11/20/23
Benzoic acid	ND		1130	ug/kg	11/17/23	11/20/23
Biphenyl	ND		34	ug/kg	11/17/23	11/20/23
Bis(2-chloroethoxy)methane	ND		147	ug/kg	11/17/23	11/20/23
Bis(2-chloroethyl)ether	ND		147	ug/kg	11/17/23	11/20/23
Bis(2-chloroisopropyl)ether	ND		147	ug/kg	11/17/23	11/20/23
Bis(2-ethylhexyl)phthalate	ND		452	ug/kg	11/17/23	11/20/23
Butyl benzyl phthalate	**259**		147	ug/kg	11/17/23	11/20/23
Chrysene	ND		147	ug/kg	11/17/23	11/20/23
Di-n-octyl phthalate	ND		226	ug/kg	11/17/23	11/20/23
Dibenz(a,h)anthracene	ND		147	ug/kg	11/17/23	11/20/23
Dibenzofuran	ND		147	ug/kg	11/17/23	11/20

Results: Semivolatile organic compounds (Continued)

Sample: SS-22 / 0-1' (Continued)

Lab Number: 3K15011-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		147	ug/kg	11/17/23	11/20/23
Dimethyl phthalate	ND		373	ug/kg	11/17/23	11/20/23
Di-n-butyl phthalate	ND		226	ug/kg	11/17/23	11/20/23
Fluoranthene	ND		147	ug/kg	11/17/23	11/20/23
Fluorene	ND		147	ug/kg	11/17/23	11/20/23
Hexachlorobenzene	ND		147	ug/kg	11/17/23	11/20/23
Hexachlorobutadiene	ND		147	ug/kg	11/17/23	11/20/23
Hexachlorocyclopentadiene	ND		373	ug/kg	11/17/23	11/20/23
Hexachloroethane	ND		147	ug/kg	11/17/23	11/20/23
Indeno(1,2,3-cd)pyrene	ND		147	ug/kg	11/17/23	11/20/23
Isophorone	ND		147	ug/kg	11/17/23	11/20/23
Naphthalene	ND		147	ug/kg	11/17/23	11/20/23
N-Nitrosodimethylamine	ND		147	ug/kg	11/17/23	11/20/23
N-Nitrosodi-n-propylamine	ND		147	ug/kg	11/17/23	11/20/23
N-Nitrosodiphenylamine	ND		147	ug/kg	11/17/23	11/20/23
Pentachlorophenol	ND		373	ug/kg	11/17/23	11/20/23
Phenanthrene	ND		147	ug/kg	11/17/23	11/20/23
Pyrene	ND		147	ug/kg	11/17/23	11/20/23
m&p-Cresol	ND		294	ug/kg	11/17/23	11/20/23
Pyridine	ND		147	ug/kg	11/17/23	11/20/23
Azobenzene	ND		147	ug/kg	11/17/23	11/20/23
Total Dichlorobenzene	ND		147	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*50.8%*	*30-126*	11/17/23	11/20/23
p-Terphenyl-d14	*101%*	*47-130*	11/17/23	11/20/23
2-Fluorobiphenyl	*48.9%*	*34-130*	11/17/23	11/20/23
Phenol-d6	*37.6%*	*30-130*	11/17/23	11/20/23
2,4,6-Tribromophenol	*85.5%*	*30-130*	11/17/23	11/20/23
2-Fluorophenol	*32.9%*	*30-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-15 / 0-1'

Lab Number: 3K15011-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1254	**228**		71	ug/kg	11/17/23	11/20/23
Aroclor-1260	**279**		71	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		71	ug/kg	11/17/23	11/20/23
PCBs (Total)	**507**		71	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*50.2%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*80.4%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-16 / 0-1'

Lab Number: 3K15011-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1254	**139**		71	ug/kg	11/17/23	11/20/23
Aroclor-1260	**198**		71	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		71	ug/kg	11/17/23	11/20/23
PCBs (Total)	**337**		71	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*46.9%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*54.3%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-17 / 0-1'

Lab Number: 3K15011-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1254	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1260	**79**		73	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		73	ug/kg	11/17/23	11/20/23
PCBs (Total)	**79**		73	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*56.9%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*59.2%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-18 / 0-1'

Lab Number: 3K15011-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1254	**648**		80	ug/kg	11/17/23	11/20/23
Aroclor-1260	**430**		80	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		80	ug/kg	11/17/23	11/20/23
PCBs (Total)	**1080**		80	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*57.7%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*58.3%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-19 / 0-1'

Lab Number: 3K15011-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1254	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1260	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		71	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		71	ug/kg	11/17/23	11/20/23
PCBs (Total)	ND		71	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*65.1%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*90.9%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-20 / 0-1'

Lab Number: 3K15011-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1254	**1010**		84	ug/kg	11/17/23	11/20/23
Aroclor-1260	**830**		84	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		84	ug/kg	11/17/23	11/20/23
PCBs (Total)	**1840**		84	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*44.9%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*46.2%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-21 / 0-1'

Lab Number: 3K15011-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1254	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1260	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		73	ug/kg	11/17/23	11/20/23
PCBs (Total)	ND		73	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*57.0%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*93.4%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-22 / 0-1'

Lab Number: 3K15011-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1254	**123**		73	ug/kg	11/17/23	11/20/23
Aroclor-1260	**148**		73	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		73	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		73	ug/kg	11/17/23	11/20/23
PCBs (Total)	**270**		73	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*41.8%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*51.2%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-23 / 0-1'

Lab Number: 3K15011-09 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1254	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1260	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		86	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		86	ug/kg	11/17/23	11/20/23
PCBs (Total)	ND		86	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*52.8%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*56.6%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-24 / 0-1'

Lab Number: 3K15011-10 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		165	ug/kg	11/17/23	11/22/23
Aroclor-1221	ND		165	ug/kg	11/17/23	11/22/23
Aroclor-1232	ND		165	ug/kg	11/17/23	11/22/23
Aroclor-1242	ND		165	ug/kg	11/17/23	11/22/23
Aroclor-1248	ND		165	ug/kg	11/17/23	11/22/23
Aroclor-1254	**3010**		165	ug/kg	11/17/23	11/22/23
Aroclor-1260	**2130**		165	ug/kg	11/17/23	11/22/23
Aroclor-1262	ND		165	ug/kg	11/17/23	11/22/23
Aroclor-1268	ND		165	ug/kg	11/17/23	11/22/23
PCBs (Total)	**5140**		165	ug/kg	11/17/23	11/22/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*75.5%*	*36.2-130*	11/17/23	11/22/23
Decachlorobiphenyl (DCBP)	*104%*	*43.3-130*	11/17/23	11/22/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-25 / 0-1'

Lab Number: 3K15011-11 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1254	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1260	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		75	ug/kg	11/17/23	11/20/23
PCBs (Total)	ND		75	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*73.0%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*77.3%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-26 / 0-1'

Lab Number: 3K15011-12 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1254	**926**		80	ug/kg	11/17/23	11/20/23
Aroclor-1260	**810**		80	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		80	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		80	ug/kg	11/17/23	11/20/23
PCBs (Total)	**1740**		80	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*44.8%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*43.9%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-27 / 0-1'

Lab Number: 3K15011-13 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		1670	ug/kg	11/17/23	11/22/23
Aroclor-1221	ND		1670	ug/kg	11/17/23	11/22/23
Aroclor-1232	ND		1670	ug/kg	11/17/23	11/22/23
Aroclor-1242	ND		1670	ug/kg	11/17/23	11/22/23
Aroclor-1248	ND		1670	ug/kg	11/17/23	11/22/23
Aroclor-1254	**15200**		1670	ug/kg	11/17/23	11/22/23
Aroclor-1260	**11000**		1670	ug/kg	11/17/23	11/22/23
Aroclor-1262	ND		1670	ug/kg	11/17/23	11/22/23
Aroclor-1268	ND		1670	ug/kg	11/17/23	11/22/23
PCBs (Total)	**26200**		1670	ug/kg	11/17/23	11/22/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*65.5%*	*36.2-130*	11/17/23	11/22/23
Decachlorobiphenyl (DCBP)	*78.9%*	*43.3-130*	11/17/23	11/22/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-28 / 0-1'

Lab Number: 3K15011-14 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1254	**956**		84	ug/kg	11/17/23	11/20/23
Aroclor-1260	**1300**		84	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		84	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		84	ug/kg	11/17/23	11/20/23
PCBs (Total)	**2260**		84	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*49.2%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*109%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-29 / 0-1'

Lab Number: 3K15011-15 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		81	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		81	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		81	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		81	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		81	ug/kg	11/17/23	11/20/23
Aroclor-1254	**1120**		81	ug/kg	11/17/23	11/20/23
Aroclor-1260	**786**		81	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		81	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		81	ug/kg	11/17/23	11/20/23
PCBs (Total)	**1900**		81	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*39.5%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*117%*	*43.3-130*	11/17/23	11/20/23

Results: Polychlorinated Biphenyls (PCBs)

Sample: SS-30 / 0-1'

Lab Number: 3K15011-16 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1221	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1232	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1242	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1248	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1254	**249**		75	ug/kg	11/17/23	11/20/23
Aroclor-1260	**282**		75	ug/kg	11/17/23	11/20/23
Aroclor-1262	ND		75	ug/kg	11/17/23	11/20/23
Aroclor-1268	ND		75	ug/kg	11/17/23	11/20/23
PCBs (Total)	**531**		75	ug/kg	11/17/23	11/20/23

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*42.1%*	*36.2-130*	11/17/23	11/20/23
Decachlorobiphenyl (DCBP)	*113%*	*43.3-130*	11/17/23	11/20/23

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0732 - Metals Digestion Soils										
Blank (B3K0732-BLK1)					Prepared & Analyzed: 11/16/23					
Lead	ND		0.50	mg/kg						
Silver	ND		1.00	mg/kg						
Arsenic	ND		1.00	mg/kg						
Beryllium	ND		0.33	mg/kg						
Cadmium	ND		0.50	mg/kg						
Chromium	ND		0.50	mg/kg						
Nickel	ND		0.50	mg/kg						
Barium	ND		0.33	mg/kg						
Antimony	ND		0.66	mg/kg						
Zinc	ND		2.0	mg/kg						
Vanadium	ND		0.33	mg/kg						
Selenium	ND		1.00	mg/kg						
Thallium	ND		0.33	mg/kg						
LCS (B3K0732-BS1)					Prepared & Analyzed: 11/16/23					
Silver	40.0		1.00	mg/kg	40.0		99.9	85-115		
Chromium	99.8		0.50	mg/kg	100		99.8	85-115		
Selenium	20.6		1.00	mg/kg	20.0		103	85-115		
Lead	99.5		0.50	mg/kg	100		99.5	85-115		
Nickel	95.2		0.50	mg/kg	100		95.2	85-112		
Vanadium	102		0.33	mg/kg	100		102	85-115		
Beryllium	20.9		0.33	mg/kg	20.0		105	85-115		
Barium	105		0.33	mg/kg	100		105	85-115		
Zinc	98.0		2.0	mg/kg	100		98.0	85-115		
Arsenic	20.7		1.00	mg/kg	20.0		103	85-115		
Antimony	102		0.66	mg/kg	100		102	85-115		
Cadmium	96.7		0.50	mg/kg	100		96.7	85-115		
Thallium	88.4		0.33	mg/kg	100		88.4	85-115		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0757 - Metals Cold-Vapor Mercury										
Blank (B3K0757-BLK1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	ND		0.100	mg/kg						
Blank (B3K0757-BLK2)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	ND		0.100	mg/kg						
Blank (B3K0757-BLK3)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	ND		0.100	mg/kg						
LCS (B3K0757-BS1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114		
LCS (B3K0757-BS2)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114		
LCS (B3K0757-BS3)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114		
LCS Dup (B3K0757-BSD1)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114	0.00	200
LCS Dup (B3K0757-BSD2)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114	0.00	200
LCS Dup (B3K0757-BSD3)					Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.372		0.100	mg/kg	0.357		104	93-114	0.00	200
Matrix Spike (B3K0757-MS1)		Source: 3K07005-01			Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.518		0.133	mg/kg dry	0.475	0.048	99.0	80-120		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0757 - Metals Cold-Vapor Mercury (Continued)										
Matrix Spike (B3K0757-MS2)	Source: 3K15011-05				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.547		0.149	mg/kg dry	0.531	0.019	99.4	80-120		
Matrix Spike (B3K0757-MS3)	Source: 3K15055-01				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.924		0.214	mg/kg dry	0.764	0.179	97.5	80-120		
Matrix Spike (B3K0757-MS4)	Source: 3K15010-08				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.590		0.158	mg/kg dry	0.563	0.050	95.9	80-120		
Matrix Spike Dup (B3K0757-MSD1)	Source: 3K07005-01				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.599		0.153	mg/kg dry	0.546	0.048	101	80-120	14.4	20
Matrix Spike Dup (B3K0757-MSD2)	Source: 3K15011-05				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.546		0.148	mg/kg dry	0.527	0.019	99.9	80-120	0.231	20
Matrix Spike Dup (B3K0757-MSD3)	Source: 3K15055-01				Prepared: 11/16/23 Analyzed: 11/20/23					
Mercury	0.835		0.201	mg/kg dry	0.717	0.179	91.4	80-120	10.2	20

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0769 - 1_Semivolatiles Extractions										
Blank (B3K0769-BLK1)					Prepared: 11/17/23 Analyzed: 11/20/23					
1,2,4-Trichlorobenzene	ND		129	ug/kg						
1,2-Dichlorobenzene	ND		129	ug/kg						
1,3-Dichlorobenzene	ND		129	ug/kg						
1,4-Dichlorobenzene	ND		129	ug/kg						
Phenol	ND		129	ug/kg						
2,4,5-Trichlorophenol	ND		129	ug/kg						
2,4,6-Trichlorophenol	ND		129	ug/kg						
2,4-Dichlorophenol	ND		129	ug/kg						
2,4-Dimethylphenol	ND		328	ug/kg						
2,4-Dinitrophenol	ND		328	ug/kg						
2,4-Dinitrotoluene	ND		129	ug/kg						
2,6-Dinitrotoluene	ND		129	ug/kg						
2-Chloronaphthalene	ND		129	ug/kg						
2-Chlorophenol	ND		129	ug/kg						
2-Methylnaphthalene	ND		129	ug/kg						
Nitrobenzene	ND		129	ug/kg						
2-Methylphenol	ND		129	ug/kg						
2-Nitroaniline	ND		129	ug/kg						
2-Nitrophenol	ND		328	ug/kg						
3,3'-Dichlorobenzidine	ND		328	ug/kg						
3-Nitroaniline	ND		129	ug/kg						
4,6-Dinitro-2-methylphenol	ND		328	ug/kg						
4-Bromophenyl phenyl ether	ND		129	ug/kg						
4-Chloro-3-methylphenol	ND		129	ug/kg						
4-Chloroaniline	ND		129	ug/kg						
4-Chlorophenyl phenyl ether	ND		129	ug/kg						
4-Nitroaniline	ND		129	ug/kg						
4-Nitrophenol	ND		328	ug/kg						
Acenaphthene	ND		129	ug/kg						
Acenaphthylene	ND		129	ug/kg						
Aniline	ND		129	ug/kg						
Anthracene	ND		129	ug/kg						
Benzo(a)anthracene	ND		129	ug/kg						
Benzo(a)pyrene	ND		129	ug/kg						
Benzo(b)fluoranthene	ND		129	ug/kg						
Benzo(g,h,i)perylene	ND		129	ug/kg						
Benzo(k)fluoranthene	ND		129	ug/kg						
Benzoic acid	ND		993	ug/kg						
Biphenyl	ND		30	ug/kg						
Bis(2-chloroethoxy)methane	ND		129	ug/kg						
Bis(2-chloroethyl)ether	ND		129	ug/kg						
Bis(2-chloroisopropyl)ether	ND		129	ug/kg						
Bis(2-ethylhexyl)phthalate	ND		397	ug/kg						
Butyl benzyl phthalate	ND		129	ug/kg						
Chrysene	ND		129	ug/kg						
Di-n-octyl phthalate	ND		199	ug/kg						
Dibenz(a,h)anthracene	ND		129	ug/kg						
Dibenzofuran	ND		129	ug/kg						
Diethyl phthalate	ND		129	ug/kg						
Dimethyl phthalate	ND		328	ug/kg						
Di-n-butyl phthalate	ND		199	ug/kg						
Fluoranthene	ND		129	ug/kg						
Fluorene	ND		129	ug/kg						
Hexachlorobenzene	ND		129	ug/kg						
Hexachlorobutadiene	ND		129	ug/kg						
Hexachlorocyclopentadiene	ND		328	ug/kg						
Hexachloroethane	ND		129	ug/kg						

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0769 - 1_Semivolatiles Extractions (Continued)										
Blank (B3K0769-BLK1)					Prepared: 11/17/23 Analyzed: 11/20/23					
Indeno(1,2,3-cd)pyrene	ND		129	ug/kg						
Isophorone	ND		129	ug/kg						
Naphthalene	ND		129	ug/kg						
N-Nitrosodimethylamine	ND		129	ug/kg						
N-Nitrosodi-n-propylamine	ND		129	ug/kg						
N-Nitrosodiphenylamine	ND		129	ug/kg						
Pentachlorophenol	ND		328	ug/kg						
Phenanthrene	ND		129	ug/kg						
Pyrene	ND		129	ug/kg						
m&p-Cresol	ND		258	ug/kg						
Pyridine	ND		129	ug/kg						
Azobenzene	ND		129	ug/kg						
Total Dichlorobenzene	ND		129	ug/kg						
Surrogate: Nitrobenzene-d5			*1950*	ug/kg	*3310*		*58.9*	*30-126*		
Surrogate: p-Terphenyl-d14			*2830*	ug/kg	*3310*		*85.5*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*1700*	ug/kg	*3310*		*51.3*	*34-130*		
Surrogate: Phenol-d6			*1410*	ug/kg	*3310*		*42.6*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*1750*	ug/kg	*3310*		*52.7*	*30-130*		
Surrogate: 2-Fluorophenol			*1310*	ug/kg	*3310*		*39.7*	*30-130*		
LCS (B3K0769-BS1)					Prepared: 11/17/23 Analyzed: 11/21/23					
1,2,4-Trichlorobenzene	2140		129	ug/kg	3310		64.6	40-130		
1,2-Dichlorobenzene	2100		129	ug/kg	3310		63.4	40-130		
1,3-Dichlorobenzene	1960		129	ug/kg	3310		59.1	40-130		
1,4-Dichlorobenzene	1990		129	ug/kg	3310		60.0	40-130		
Phenol	2040		129	ug/kg	3310		61.7	40-130		
2,4,5-Trichlorophenol	1920		129	ug/kg	3310		58.1	40-130		
2,4,6-Trichlorophenol	2150		129	ug/kg	3310		65.0	40-130		
2,4-Dichlorophenol	2170		129	ug/kg	3310		65.6	40-130		
2,4-Dimethylphenol	2080		328	ug/kg	3310		62.7	40-130		
2,4-Dinitrophenol	1280		328	ug/kg	3310		38.8	15-140		
2,4-Dinitrotoluene	2760		129	ug/kg	3310		83.4	40-130		
2,6-Dinitrotoluene	2130		129	ug/kg	3310		64.4	40-130		
2-Chloronaphthalene	2130		129	ug/kg	3310		64.2	40-130		
2-Chlorophenol	2020		129	ug/kg	3310		61.1	40-130		
2-Methylnaphthalene	2280		129	ug/kg	3310		69.0	40-130		
Nitrobenzene	2550		129	ug/kg	3310		77.1	40-130		
2-Methylphenol	2150		129	ug/kg	3310		65.0	40-130		
2-Nitroaniline	2970		129	ug/kg	3310		89.7	40-130		
2-Nitrophenol	2420		328	ug/kg	3310		73.1	40-130		
3-Nitroaniline	2320		129	ug/kg	3310		70.2	40-130		
4,6-Dinitro-2-methylphenol	1740		328	ug/kg	3310		52.5	30-130		
4-Bromophenyl phenyl ether	2200		129	ug/kg	3310		66.4	40-130		
4-Chloro-3-methylphenol	2540		129	ug/kg	3310		76.6	40-130		
4-Chlorophenyl phenyl ether	3050		129	ug/kg	3310		92.3	40-130		
4-Nitroaniline	2190		129	ug/kg	3310		66.2	40-130		
4-Nitrophenol	3990		328	ug/kg	3310		121	40-130		
Acenaphthene	2240		129	ug/kg	3310		67.7	40-130		
Acenaphthylene	2440		129	ug/kg	3310		73.5	40-130		
Anthracene	2550		129	ug/kg	3310		76.9	40-130		
Benzo(a)anthracene	2290		129	ug/kg	3310		69.0	40-130		
Benzo(a)pyrene	2560		129	ug/kg	3310		77.4	40-130		
Benzo(b)fluoranthene	2610		129	ug/kg	3310		78.7	40-130		
Benzo(g,h,i)perylene	2360		129	ug/kg	3310		71.2	40-130		
Benzo(k)fluoranthene	2670		129	ug/kg	3310		80.5	40-130		
Biphenyl	519		30	ug/kg	828		62.6	40-130		
Bis(2-chloroethoxy)methane	2090		129	ug/kg	3310		63.2	40-130		

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0769 - 1_Semivolatiles Extractions (Continued)										
LCS (B3K0769-BS1)					Prepared: 11/17/23 Analyzed: 11/21/23					
Bis(2-chloroethyl)ether	1910		129	ug/kg	3310		57.6	40-130		
Bis(2-chloroisopropyl)ether	1710		129	ug/kg	3310		51.5	40-130		
Bis(2-ethylhexyl)phthalate	3360		397	ug/kg	3310		102	40-130		
Butyl benzyl phthalate	3040		129	ug/kg	3310		91.7	40-130		
Chrysene	2380		129	ug/kg	3310		71.9	40-130		
Di-n-octyl phthalate	3530		199	ug/kg	3310		106	40-130		
Dibenz(a,h)anthracene	2480		129	ug/kg	3310		74.9	40-130		
Dibenzofuran	2640		129	ug/kg	3310		79.8	40-130		
Diethyl phthalate	2660		129	ug/kg	3310		80.4	40-130		
Dimethyl phthalate	2340		328	ug/kg	3310		70.6	40-130		
Di-n-butyl phthalate	3060		199	ug/kg	3310		92.3	40-130		
Fluoranthene	2570		129	ug/kg	3310		77.7	40-130		
Fluorene	2890		129	ug/kg	3310		87.4	40-130		
Hexachlorobenzene	2080		129	ug/kg	3310		62.9	40-130		
Hexachlorobutadiene	2850		129	ug/kg	3310		86.1	40-130		
Hexachlorocyclopentadiene	1730		328	ug/kg	3310		52.3	40-130		
Hexachloroethane	2590		129	ug/kg	3310		78.2	40-130		
Indeno(1,2,3-cd)pyrene	2280		129	ug/kg	3310		68.8	40-130		
Isophorone	2390		129	ug/kg	3310		72.3	40-130		
Naphthalene	2320		129	ug/kg	3310		70.1	40-130		
N-Nitrosodimethylamine	2690		129	ug/kg	3310		81.2	40-130		
N-Nitrosodi-n-propylamine	2620		129	ug/kg	3310		79.0	40-130		
N-Nitrosodiphenylamine	2890		129	ug/kg	3310		87.2	40-130		
Pentachlorophenol	1800		328	ug/kg	3310		54.4	15-140		
Phenanthrene	2560		129	ug/kg	3310		77.2	40-130		
Pyrene	2550		129	ug/kg	3310		77.2	40-130		
m&p-Cresol	2240		258	ug/kg	3310		67.6	40-130		
Surrogate: Nitrobenzene-d5			*5640*	ug/kg	*6620*		*85.2*	*30-126*		
Surrogate: p-Terphenyl-d14			*5070*	ug/kg	*6620*		*76.6*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*4730*	ug/kg	*6620*		*71.4*	*34-130*		
Surrogate: Phenol-d6			*4240*	ug/kg	*6620*		*64.0*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*6080*	ug/kg	*6620*		*91.8*	*30-130*		
Surrogate: 2-Fluorophenol			*4250*	ug/kg	*6620*		*64.1*	*30-130*		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0769 - 1_Semivolatiles Extractions (Continued)										
LCS Dup (B3K0769-BSD1)					Prepared: 11/17/23 Analyzed: 11/21/23					
1,2,4-Trichlorobenzene	2350		129	ug/kg	3310		71.1	40-130	9.64	30
1,2-Dichlorobenzene	2170		129	ug/kg	3310		65.5	40-130	3.26	30
1,3-Dichlorobenzene	2090		129	ug/kg	3310		63.1	40-130	6.51	30
1,4-Dichlorobenzene	2110		129	ug/kg	3310		63.6	40-130	5.79	30
Phenol	2040		129	ug/kg	3310		61.7	40-130	0.0324	30
2,4,5-Trichlorophenol	2160		129	ug/kg	3310		65.3	40-130	11.6	30
2,4,6-Trichlorophenol	2370		129	ug/kg	3310		71.7	40-130	9.80	30
2,4-Dichlorophenol	2410		129	ug/kg	3310		72.8	40-130	10.5	30
2,4-Dimethylphenol	2240		328	ug/kg	3310		67.5	40-130	7.46	30
2,4-Dinitrophenol	1370		328	ug/kg	3310		41.5	15-140	6.73	30
2,4-Dinitrotoluene	3010		129	ug/kg	3310		91.0	40-130	8.74	30
2,6-Dinitrotoluene	2400		129	ug/kg	3310		72.5	40-130	11.8	30
2-Chloronaphthalene	2310		129	ug/kg	3310		69.7	40-130	8.27	30
2-Chlorophenol	2140		129	ug/kg	3310		64.6	40-130	5.53	30
2-Methylnaphthalene	2490		129	ug/kg	3310		75.3	40-130	8.78	30
Nitrobenzene	2740		129	ug/kg	3310		82.6	40-130	6.91	30
2-Methylphenol	2330		129	ug/kg	3310		70.3	40-130	7.84	30
2-Nitroaniline	3370		129	ug/kg	3310		102	40-130	12.6	30
2-Nitrophenol	2460		328	ug/kg	3310		74.2	40-130	1.55	30
3-Nitroaniline	2520		129	ug/kg	3310		76.1	40-130	8.10	30
4,6-Dinitro-2-methylphenol	1880		328	ug/kg	3310		56.7	30-130	7.77	30
4-Bromophenyl phenyl ether	2360		129	ug/kg	3310		71.4	40-130	7.23	30
4-Chloro-3-methylphenol	2770		129	ug/kg	3310		83.8	40-130	8.88	30
4-Chlorophenyl phenyl ether	3320		129	ug/kg	3310		100	40-130	8.27	30
4-Nitroaniline	2360		129	ug/kg	3310		71.2	40-130	7.33	30
4-Nitrophenol	4650		328	ug/kg	3310		141	40-130	15.3	30
Acenaphthene	2490		129	ug/kg	3310		75.2	40-130	10.6	30
Acenaphthylene	2690		129	ug/kg	3310		81.2	40-130	9.88	30
Anthracene	2720		129	ug/kg	3310		82.3	40-130	6.81	30
Benzo(a)anthracene	2460		129	ug/kg	3310		74.2	40-130	7.15	30
Benzo(a)pyrene	2680		129	ug/kg	3310		80.8	40-130	4.32	30
Benzo(b)fluoranthene	2760		129	ug/kg	3310		83.5	40-130	5.82	30
Benzo(g,h,i)perylene	2610		129	ug/kg	3310		79.0	40-130	10.3	30
Benzo(k)fluoranthene	2890		129	ug/kg	3310		87.3	40-130	8.03	30
Biphenyl	577		30	ug/kg	828		69.8	40-130	10.8	30
Bis(2-chloroethoxy)methane	2200		129	ug/kg	3310		66.6	40-130	5.24	30
Bis(2-chloroethyl)ether	2010		129	ug/kg	3310		60.7	40-130	5.34	30
Bis(2-chloroisopropyl)ether	1830		129	ug/kg	3310		55.3	40-130	7.19	30
Bis(2-ethylhexyl)phthalate	3580		397	ug/kg	3310		108	40-130	6.18	30
Butyl benzyl phthalate	3330		129	ug/kg	3310		101	40-130	9.21	30
Chrysene	2620		129	ug/kg	3310		79.1	40-130	9.56	30
Di-n-octyl phthalate	3820		199	ug/kg	3310		115	40-130	8.06	30
Dibenz(a,h)anthracene	2670		129	ug/kg	3310		80.6	40-130	7.23	30
Dibenzofuran	2940		129	ug/kg	3310		88.9	40-130	10.8	30
Diethyl phthalate	2950		129	ug/kg	3310		89.0	40-130	10.2	30
Dimethyl phthalate	2560		328	ug/kg	3310		77.2	40-130	8.91	30
Di-n-butyl phthalate	3140		199	ug/kg	3310		94.7	40-130	2.59	30
Fluoranthene	2710		129	ug/kg	3310		81.7	40-130	5.02	30
Fluorene	3110		129	ug/kg	3310		94.0	40-130	7.28	30
Hexachlorobenzene	2190		129	ug/kg	3310		66.3	40-130	5.30	30
Hexachlorobutadiene	3100		129	ug/kg	3310		93.6	40-130	8.28	30
Hexachlorocyclopentadiene	2010		328	ug/kg	3310		60.8	40-130	15.1	30
Hexachloroethane	2730		129	ug/kg	3310		82.3	40-130	5.16	30
Indeno(1,2,3-cd)pyrene	2530		129	ug/kg	3310		76.5	40-130	10.6	30
Isophorone	2520		129	ug/kg	3310		76.2	40-130	5.20	30
Naphthalene	2500		129	ug/kg	3310		75.4	40-130	7.29	30
N-Nitrosodimethylamine	3000		129	ug/kg	3310		90.5	40-130	[illegible]	[illegible]

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0769 - 1_Semivolatiles Extractions (Continued)										
LCS Dup (B3K0769-BSD1)					Prepared: 11/17/23 Analyzed: 11/21/23					
N-Nitrosodi-n-propylamine	2730		129	ug/kg	3310		82.5	40-130	4.33	30
N-Nitrosodiphenylamine	3000		129	ug/kg	3310		90.5	40-130	3.78	30
Pentachlorophenol	1900		328	ug/kg	3310		57.2	15-140	5.05	30
Phenanthrene	2710		129	ug/kg	3310		81.7	40-130	5.66	30
Pyrene	2680		129	ug/kg	3310		81.0	40-130	4.83	30
m&p-Cresol	2340		258	ug/kg	3310		70.6	40-130	4.40	30
Surrogate: Nitrobenzene-d5			*5880*	ug/kg	*6620*		*88.9*	*30-126*		
Surrogate: p-Terphenyl-d14			*5380*	ug/kg	*6620*		*81.3*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*5210*	ug/kg	*6620*		*78.6*	*34-130*		
Surrogate: Phenol-d6			*4460*	ug/kg	*6620*		*67.4*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*6540*	ug/kg	*6620*		*98.8*	*30-130*		
Surrogate: 2-Fluorophenol			*4410*	ug/kg	*6620*		*66.6*	*30-130*		

Quality Control
(Continued)

Polychlorinated Biphenyls (PCBs)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3K0787 - 1_Semivolatiles Extractions										
Blank (B3K0787-BLK1)					Prepared: 11/17/23 Analyzed: 11/20/23					
Aroclor-1016	ND		66	ug/kg						
Aroclor-1221	ND		66	ug/kg						
Aroclor-1232	ND		66	ug/kg						
Aroclor-1242	ND		66	ug/kg						
Aroclor-1248	ND		66	ug/kg						
Aroclor-1254	ND		66	ug/kg						
Aroclor-1260	ND		66	ug/kg						
Aroclor-1262	ND		66	ug/kg						
Aroclor-1268	ND		66	ug/kg						
PCBs (Total)	ND		66	ug/kg						
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*5.78*	ug/kg	*13.3*		*43.4*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*10.9*	ug/kg	*13.3*		*81.6*	*43.3-130*		
LCS (B3K0787-BS1)					Prepared: 11/17/23 Analyzed: 11/20/23					
Aroclor-1016	125		66	ug/kg	167		74.9	58.2-125		
Aroclor-1260	113		66	ug/kg	167		67.7	65.5-130		
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*5.20*	ug/kg	*13.3*		*39.0*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*9.42*	ug/kg	*13.3*		*70.6*	*43.3-130*		
LCS Dup (B3K0787-BSD1)					Prepared: 11/17/23 Analyzed: 11/20/23					
Aroclor-1016	106		66	ug/kg	167		63.4	58.2-125	16.6	20
Aroclor-1260	114		66	ug/kg	167		68.7	65.5-130	1.48	20
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*6.79*	ug/kg	*13.3*		*51.0*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*12.2*	ug/kg	*13.3*		*91.2*	*43.3-130*		

Notes and Definitions

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

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

3 K 1 5011 M

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME/LOCATION
1843	BARNES ROAD & CEDAR ROAD, Salem, MA

CLIENT: Blackstone Environmental Solutions
REPORT TO:
INVOICE TO: Michael Bricher

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS: MCP METAL 14	TESTS: PCBs - 8082A	TESTS: SVOCs - 8270	REMARKS
11/13/23	2:30	X		SS-15/0-1'		X		1	—	X	X		
	11:55			SS-16/0-1'									
	11:25			SS-17/0-1'									
	11:05			SS-18/0-1'								X	
	11:15			SS-19/0-1'									
	11:45			SS-20/0-1'									
	11:35			SS-21/0-1'									
	12:05			SS-22/0-1'								X	
	11:55			SS-23/0-1'									
	12:15			SS-24/0-1'									
	12:25			SS-25/0-1'									
11/14/23	1:20			SS-26/0-1'									
	1:30			SS-27/0-1'									
	1:50			SS-28/0-1'									

Sampled by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Michael Bricher	11/13-14/23 5:00PM	BES Fridge	11/13-14/23 5:00PM
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Michael Bricher	11/15/23 10AM	Steven Dunn	11/15/23 10AM
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
Steven Dunn	11/15/23 1600	ALR	11/15/23 1606

Laboratory Remarks: 5
Temp. received: 5
Cooled ☐

Special Instructions:
List Specific Detection Limit Requirements:
MCP Method 5-1/GW-2/3 Limits

Turnaround (Business Days): NORMAL

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

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

CHAIN OF CUSTODY RECORD

PROJ. NO.: 1843
PROJECT NAME/LOCATION: BARNES ROAD & CEDAR ROAD, SALEM, MA
CLIENT: BLACKSTONE ENVIRONMENTAL SOLUTIONS
REPORT TO:
INVOICE TO: MICHAEL BRICHER

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS: MCP METAL 14	TESTS: PCBs - 8082A	REMARKS
11/14/23	1:40	X		SS-29 / 0-1'		X		1 •	—	X	X	
11/14/23	2:00	X		SS-30 / 0-1'		X		1 •	—	X	X	

Sampled by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Michael Bricher	11/13-14/23	BES Fridge	11/13/14/23 5:00PM
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Michael Bricher	11/15/23 10AM	Steven Dunze	11/15/23 10AM
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
Steven Dunze	11/15/23 1000	AR	11/15/23 1000

Laboratory Remarks:
Temp. received: 5
Cooled ☐

Special Instructions:
List Specific Detection Limit Requirements:
MCP Method 1 S-1 / GW-2/3 Limits

Turnaround (Business Days): Normal

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

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc. Project #: 1843

Project Location: Salem, MA RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 3K15011

Matrices: ☐ Groundwater/Surface Water ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☒	MassDEP VPH (GC/PID/FID) CAM IV A ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐
8270 SVOC CAM II B ☒	7010 Metals CAM III C ☐	MassDEP VPH (GC/MS) CAM IV C ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
6010 Metals CAM III A ☒	6020 Metals CAM III D ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐

Affirmative Responses to Questions A through F are 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 ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No
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 ☐ No
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 ☐ No
E	VPH, EPH, APH, and TO-15 only 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). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
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 ☐ No

Responses to Questions G, H and I below are 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 ☒ No[1]

***Data User Note*: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1]*All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: _____ **Position:** Laboratory Director

Printed Name: Richard Warila **Date**: 11/27/2023

APPENDIX C

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

December 4, 2023
File No: 5210-11-01

Prepared for:
Blackstone Environmental Solutions, LLC
76 Bay View Drive
Shrewsbury, Massachusetts 01545

IMMINENT HAZARD EVALUATION
12 Cedar Road, 14 Cedar Road, and
14 Barnes Road
Salem, Massachusetts
MassDEP RTN 3-38273

Prepared by:
O'Reilly, Talbot & Okun Associates, Inc.
Westborough, MA 01581

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Attachment 1 Method 3 Imminent Hazard Assessment for Trespasser Exposed to Chemicals in Soil - Shortform Version November 2023 (sf23tsih), Method 3 Lookup Tables Version v1123

1.0 INTRODUCTION

This report presents an Imminent Hazard Evaluation (IHE) for the release of oil and/or hazardous material (OHM) at the portions of the vacant land located at 12 Cedar Road, 14 Cedar Road, and 14 Barnes Road in Salem, Massachusetts reported under Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-38273. The portions of these properties are part of the larger Massachusetts Department of Environmental Protection (MassDEP) Disposal Site assigned parent RTN 3-38210 (the "Site"). The Site also includes portions of the properties at 9, 15, and 16 Cedar Road.

The IHE was completed as part of the Immediate Response Action (IRA) Status Report #1 submitted by Blackstone Environmental Solutions LLC (BES) to MassDEP. The Site information and analytical soil data provided in the IRA Status Report were used in the IHE.

The IHE was completed in accordance with MassDEP regulations under the Massachusetts Contingency Plan (MCP: 310 CMR 40.0950) and applicable MassDEP guidance.

On August 11, 2023, MassDEP was notified on behalf of Barnes Road Trust that the vacant property located at 14 Barnes Road has triggered a MCP 2-hour reporting condition (i.e., potential Imminent Hazard Condition). The 14 Barnes Road property is located immediately adjacent to 14 Cedar Road. The dataset generated as part of an assessment by Weston & Sampson on October 9, 2020, includes a total polychlorinated biphenyls (PCB) concentration of 118.3 mg/kg that was collected in the top 6 inches of material at location N-9. This PCB concentration is above the notification threshold for the purpose of fulfilling the "Two Hour" release notification obligations of 310 CMR 30.0311(7), as a "Could Pose" Imminent Hazard to human health.

The BES IRA Status Report details the assessment activities performed at the Site to determine the source, nature and extent of the release condition associated with the formerly Imminent Hazard and to assure the continued absence of any critical exposure pathway (CEP) or a condition of substantial release migration (SRM) from occurring at the Site. Response actions covered by this IRA Status Report #1 are from October 4 through November 30, 2023. Additional data obtained after November 30, 2023 will be included in the IRA Status Report # 2 due to MassDEP on June 5, 2024.

BES previously completed an IHE Plan, IRA Plan, and surficial soil sampling at the 330-foot Street Frontage at 14 and 16 Barnes Road. BES filed an Imminent Hazard Evaluation (IHE) Results with MassDEP on October 18, 2023 for a portion of 14 and 16 Barnes Road. The IHE was performed to evaluate the risks associated with the potential trespasser exposure pathway via direct contact to soil at a portion of 14 Barnes Road and 16 Barnes Road. The laboratory soil sampling activities were performed at the aforementioned properties on September 27, 2023.

The IHE Results concluded that a condition of No Imminent Hazard exists for human health, safety, and the environment exists for the portions of 14 Barnes Road and 16 Barnes Road in Salem, Massachusetts located along approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road. Also, it was noted that the IHE will be reevaluated if conditions are identified in the future which are materially different from those characterized to date.

An IHE Results Amendment was filed with MassDEP on October 20, 2023. Based on feedback received from MassDEP staff on the October 18, 2023 IHE Results submittal, BES filed the Amendment in order to provide more clarity on the specific areas where the risk assessment conclusions were made (i.e., approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road).

1.1 ADDITIONAL SURFICIAL SOIL SAMPLING

Surficial soil sampling activities were completed by BES in November 2023 as part of the IRA assessment program to determine the horizontal extent of PCB and heavy metal contamination at the Site in conformance with the MCP and federal Toxic Substance Control Act (TSCA) requirements. The comprehensive soil sampling program was performed within and around five sampling areas (i.e., Cedar Road Easement, 12 Cedar Road, 14 Cedar Road, 16 Cedar Road, and 14 Barnes Road) to verify select previous subsurface investigation results performed by others, as well as confirm that the existing security fencing area and natural physical barriers (i.e., dense forest land, wetlands, bedrock outcrops, surface water body, and steep/rocky terrain) is sufficient to contain/eliminate a “Could Pose” Imminent Hazard to human health. In addition, the data collected from this surficial soil sampling program will be used to aid in developing a supplemental assessment program to determine the full extent of contaminants of concern (COC) impacted soil at the Site, and the implementation of a groundwater assessment program.

A total of thirty surficial soil samples (identified as SS-1 through SS-30) were collected from a depth of 0 to 1 foot below grade across the aforementioned sampling areas. Refer to IRA Status Report #1 Figure 2-Site Plan for a depiction of the surficial soil sampling locations. Labelled wood stakes were installed at each sample location and will be surveyed for elevation and location at a later date.

The soil samples were analyzed for the following parameters:

- PCBs by EPA Method 8082A;
- MCP 14 Metals; and
- SVOCs via EPA Method 8270 (select samples only).

Surficial soil sampling laboratory results are summarized on IRA Status Report #1 Tables 1A and 1B. Soil laboratory analytical reports are provided in IRA Status Report #1 Appendix B. A summary of the laboratory analytical results for the surficial soil samples collected from the five sampling areas indicated the presence of multiple

target analytes at concentrations exceeding their respective MCP reportable concentrations.

During the collection process, a visual surface inspection for ASR material (i.e., metal, rubber, plastic, wire) was performed within each sampling area. Refer to IRA Status Report #1 Tables 1A and 1B for a summary of where ASR material was visually observed within the investigation areas.

2.0 SITE-SPECIFIC IMMINENT HAZARD EVALUATION FOR HUMAN HEALTH

The Site-specific exposures considered in this IHE (310 CMR 40.0953) are as follows. The short period of time considered in the evaluation was five years. For the evaluation of soil-related exposures, the level of OHM starting at zero to twelve inches within the ground surface was used in the development of Exposure EPCs. No hot spots were identified for the subject portions of the Site. The IHE was focused on the detected PCBs, metals (exceeding MassDEP Background Concentrations for "Natural" Soil [MassDEP, 2002]), and SVOCs as constituents of concern. Maximum detected concentrations were used as EPCs.

The IHE was conducted in a manner, which results in conservative estimates of potential exposures. The IHE clearly identifies and explains the basis for exposure parameters chosen for the Risk Characterization.

The characterization of the risk of harm to human health was conducted using a Method 3 approach, as described in 310 CMR 40.0993. The toxicity information used to characterize risk is consistent with the type and duration of exposure under evaluation, and primary consideration given to information developed by MassDEP (310 CMR 40.0955(2)(a)).

2.1 IMMINENT HAZARD EVALUATION FOR TRESPASSERS

The properties evaluated in the IHE are currently undeveloped. However, the closest occupied residential building is less than 500 feet away. Existing security fencing area and natural physical barriers (i.e., dense forest land, wetlands, bedrock outcrops, surface water body, and steep/rocky terrain). However, members of the general public could potentially trespass on these properties in the absence of barriers.

Therefore, the IHE for human health was evaluated for a trespasser that would occasionally access the properties. Direct contact risks to soil by trespassers were calculated using the MassDEP Method 3 Imminent Hazard Assessment for Trespasser Exposed to Chemicals in Soil - Shortform 2023 (sf23tsih) (Method 3 Lookup Tables Version v1123). (Attachment 1).

The default exposure assumptions in this Shortform for subchronic noncancer effects assumes the receptor is a 11- to 12-year-old, soil ingestion rate of 50 mg/day, exposure frequency of 2 days/week for 30 weeks (60 days/year), and exposure period of 1 year for noncancer subchronic effects (Table TSIH-4, Sheet: Exp). The equations

to calculate noncancer risk for a trespasser are presented in Table TSIH-3, Sheet: NC Eq.

For carcinogenic effects, the receptor is a 11- to 16-year-old, soil ingestion rate of 50 mg/day, exposure frequency of 2 days/week for 30 weeks (60 days/year), and exposure period of 5 years over a 70-year lifetime (Table TSIH-4, Sheet: Exp). The equations to calculate cancer risk for a trespasser are presented in Table TSIH-2, Sheet: C Eq.

Exposure point concentrations (EPCs) were selected from the 30 samples (SS-1 to SS-30) as the maximum detected concentrations of detected analytes (IRA Status Report #1 Tables 1 and 2). These EPCs were input into the Shortform (Table TSIH-1, Sheet: EPCs).

The toxicity values for COCs are encoded in the Shortform (Table TSIH-5; Sheet: Chem). It is noted that chromium was evaluated in the hexavalent form.

Subchronic noncarcinogenic risks were calculated as the Hazard Index (HI). Cancer risks were calculated as the Excess Lifetime Cancer Risk (ELCR) (Table TSIH-2, Sheet: EPCs).

The total IH noncancer risk HI from soil exposure by trespassers is 1.5. This value is well below the MassDEP IH noncancer risk limit for HI of 10, with the Hazard Quotient for lead being less than 1. The total IH cancer risk ELCR from soil exposure by trespassers is 2E-06. This value is well below the MassDEP IH cancer risk ELCR of 1E-05.

It is noted that a condition of No Imminent Hazard would also exist using the Weston & Sampson maximum concentrations of PCBs (118.3 mg/kg) and chromium (258 mg/kg) in samples collected in 2020. Using these maximum concentrations, the HI (2.4) and ELCR (5E-06) are below MassDEP risk levels for IH.

Therefore, a condition of No Imminent Hazard was concluded for trespassers.

3.0 SITE-SPECIFIC IMMINENT HAZARD EVALUATION FOR SAFETY

In accordance with Section 310 CMR 40.0960 of MCP, the Site was also evaluated for the risk of harm to safety associated with current and reasonably foreseeable conditions at the site. In general, this evaluation considers acute hazards such as fire and explosion, the potential for exposure to acute concentrations that might be immediately threatening to life or health, and the potential for chronic exposure levels to the general public that might result from ongoing uncontrolled releases.

According to the MCP, the following Site conditions indicate a condition of No Significant Risk of harm to safety exists at the site:

- No applicable or suitably analogous safety standards were identified for the site (310 CMR 40.0960(2)); therefore, there were no exceedances of these standards.
- No rusted or corroded drums or containers, open pits, lagoons, or other dangerous structures were observed on the site (310 CMR 40.0960(3)(a)).
- There is no present threat of fire or explosion, including the presence of explosive vapors resulting from a release of OHM (310 CMR 40.0960(3)(b)).
- No uncontained material which exhibits the characteristics of corrosivity, reactivity or flammability exists at the site (310 CMR 40.0960(3)(c)).

Therefore, a condition of No Imminent Hazard exists for Safety.

4.0 SITE-SPECIFIC IMMINENT HAZARD EVALUATION FOR THE ENVIRONMENT

An IH to the environment would exist with evidence of stressed biota or immediate or acute adverse impacts to freshwater or saltwater fish populations. These conditions do not exist. Therefore, a condition of No Imminent Hazard to the environment was concluded.

5.0 CONCLUSIONS

A **condition of No Imminent Hazard exists** for human health, safety, and the environment exists for the portions of 12 Cedar Road, 14 Cedar Road and 14 Barnes Road in Salem, Massachusetts located along approximately 330 feet of street frontage existing along the southern boundary for 16 Barnes Road.

REFERENCES

Massachusetts Department of Environmental Protection (MassDEP). 1995. *Guidance for Disposal Site Risk Characterization - In Support of the Massachusetts Contingency Plan*. July 1995.

MassDEP. 2002. *Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil. Technical Update.* May 2002.

MassDEP. 2019*. 310 CMR 40.0000, the Massachusetts Contingency Plan.* Effective December 2019.

MassDEP. 2023*. ShortForms for Human Health Risk Assessment under the MCP.* ShortForm Version November 2023. Method 3 Lookup Tables v1123.

ATTACHMENTS

Method 3 Imminent Hazard Risk Assessment for a Trespasser Exposed to Chemicals in Soil
Shortform 2023 (sf23tsih)

Index

Tab	Description
OHM List	List of Oil and Hazardous Materials. (Tab is hisdden.)
EPCs	Table TSIH-1: Select chemicals and enter Exposure Point Concentrations (EPCs). Estimated risks are shown to the right.
C Eq	Table TSIH-2: Equations to calculate cancer risks
OtherMut C Eq	Table TSIH-2a: Equations to calculate cancer risks for mutagens except trichloroethylene and vinyl chloride.
OtherMut C	Table TSIH-5a and cancer risk calculations for all mutagens except trichloroethylene and vinyl chloride.
VC C Eq	Table TSIH-2b: Equations to calculate cancer risks for vinyl chloride.
VC C	Table TSIH-5b and cancer risk calculations for vinyl chloride.
TCE C Eq	Table TSIH-2c: Equations to calculate cancer risks for trichloroethylene.
TCE C	Table TSIH-5c and cancer risk calculations for except trichloroethylene.
NC Eq	Table TSIH-3: Equations to calculate noncancer risks
Exp	Table TSIH-4: Definitions and exposure factors
Chem	Table TSIH-5: Chemical-specific data
Cyanide	Table TSIH-6: Cyanide calculations

Spreadsheets designed by Andrew Friedmann, MassDEP
Questions and Comments may be addressed to:
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Massachusetts Department of Environmental Protection
Office of Research and Standards
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Boston, MA 02114 USA
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ShortForms Version November 2023

These spreadsheets are the property of MassDEP.
Original design by Andrew Friedmann, with further contributions from other MassDEP staff.

Trespasser Imminent Hazard - Soil: Table TSIH-1
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-16 (Cancer) and 11-12 (Non-Cancer)

ShortForms Version November 2023
Method 3 Lookup Tables Version v1123

ELCR (all chemicals) = 1.6E-06
HI (all chemicals) = 1.51

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	HQ_{total}	Note
ANTIMONY	231				1.7E-01	1.1E-01	2.8E-01	
ARSENIC	35.3	2.9E-07	1.2E-07	4.1E-07	1.7E-02	6.7E-03	2.4E-02	
BARIUM	1370				5.8E-03	3.7E-03	9.5E-03	
BERYLLIUM	2.15				1.3E-04	8.2E-05	2.1E-04	
CADMIUM	47.7				1.4E-02	1.8E-03	1.6E-02	
CHROMIUM (TOTAL)	169				2.5E-03	1.6E-03	4.1E-03	**Cr(VI) limit is 200 mg/kg due to contact dermititis.**
LEAD	3670				7.2E-01	5.6E-02	7.8E-01	**Lead IH HQ limit is 1, not 10.**
NICKEL	3230				4.8E-02	6.1E-02	1.1E-01	
VANADIUM	84.5				2.8E-03	1.8E-03	4.6E-03	
ZINC	17100				1.7E-02	1.1E-02	2.8E-02	
MERCURY	2.29				1.1E-03	1.4E-03	2.6E-03	
POLYCHLORINATED BIPHENYLS (PCBs)	26.2	5.7E-07	3.9E-07	9.7E-07	1.5E-01	9.9E-02	2.5E-01	
ACENAPHTHENE	1.42				6.3E-07	1.3E-06	2.0E-06	
ACENAPHTHYLENE	0.912				2.7E-07	5.8E-07	8.5E-07	
ANTHRACENE	4.59				4.1E-07	8.7E-07	1.3E-06	
BENZO(a)ANTHRACENE	12.5	1.2E-08	5.6E-09	1.8E-08	3.7E-06	1.6E-06	5.3E-06	**ELCR Calculations are on the "OtherMut C" tab.**
BENZO(a)PYRENE	12.7	1.2E-07	5.7E-08	1.8E-07	3.7E-03	1.6E-03	5.4E-03	**ELCR Calculations are on the "OtherMut C" tab.**
BENZO(b)FLUORANTHENE	16.4	1.6E-08	7.4E-09	2.3E-08	4.8E-06	2.1E-06	6.9E-06	**ELCR Calculations are on the "OtherMut C" tab.**
BENZO(g,h,i)PERYLENE	9.34				2.8E-06	5.9E-06	8.7E-06	
BENZO(k)FLUORANTHENE	5.99	5.9E-10	2.7E-10	8.6E-10	1.8E-06	7.6E-07	2.5E-06	**ELCR Calculations are on the "OtherMut C" tab.**
BIPHENYL, 1,1-	0.233	2.0E-11	1.4E-11	3.4E-11	1.4E-07	8.8E-08	2.3E-07	
CHRYSENE	13.8	1.4E-09	6.2E-10	2.0E-09	4.1E-06	1.7E-06	5.8E-06	**ELCR Calculations are on the "OtherMut C" tab.**
DIBENZO(a,h)ANTHRACENE	2.42	2.4E-08	1.1E-08	3.5E-08	7.1E-07	3.1E-07	1.0E-06	**ELCR Calculations are on the "OtherMut C" tab.**
FLUORANTHENE	25.2				2.2E-05	4.8E-05	7.0E-05	
FLUORENE	2.03				4.5E-07	9.6E-07	1.4E-06	
INDENO(1,2,3-cd)PYRENE	9.04	8.9E-10	4.1E-10	1.3E-09	2.7E-06	1.1E-06	3.8E-06	**ELCR Calculations are on the "OtherMut C" tab.**
NAPHTHALENE	1.15				5.1E-07	1.1E-06	1.6E-06	
PHENANTHRENE	22				6.5E-06	1.4E-05	2.0E-05	
PYRENE	25.6				7.6E-06	1.6E-05	2.4E-05	

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Trespasser Imminent Hazard - Soil: Table TSIH-1
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-16 (Cancer) and 11-12 (Non-Cancer)

ShortForms Version November 2023
Method 3 Lookup Tables Version v1123

ELCR (all chemicals) = 5.0E-06
HI (all chemicals) = 2.41

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	HQ_{total}	Note
ANTIMONY	231				1.7E-01	1.1E-01	2.8E-01	
ARSENIC	35.3	2.9E-07	1.2E-07	4.1E-07	1.7E-02	6.7E-03	2.4E-02	
BARIUM	1370				5.8E-03	3.7E-03	9.5E-03	
BERYLLIUM	2.15				1.3E-04	8.2E-05	2.1E-04	
CADMIUM	47.7				1.4E-02	1.8E-03	1.6E-02	
CHROMIUM (TOTAL)	258				3.8E-03	2.4E-03	6.3E-03	**Cr(VI) limit is 200 mg/kg due to contact dermititis.**
LEAD	3670				7.2E-01	5.6E-02	7.8E-01	**Lead IH HQ limit is 1, not 10.**
NICKEL	3230				4.8E-02	6.1E-02	1.1E-01	
VANADIUM	84.5				2.8E-03	1.8E-03	4.6E-03	
ZINC	17100				1.7E-02	1.1E-02	2.8E-02	
MERCURY	2.29				1.1E-03	1.4E-03	2.6E-03	
POLYCHLORINATED BIPHENYLS (PCBs)	118.3	2.6E-06	1.8E-06	4.4E-06	7.0E-01	4.5E-01	1.1E+00	
ACENAPHTHENE	1.42				6.3E-07	1.3E-06	2.0E-06	
ACENAPHTHYLENE	0.912				2.7E-07	5.8E-07	8.5E-07	
ANTHRACENE	4.59				4.1E-07	8.7E-07	1.3E-06	
BENZO(a)ANTHRACENE	12.5	1.2E-08	5.6E-09	1.8E-08	3.7E-06	1.6E-06	5.3E-06	**ELCR Calculations are on the "OtherMut C" tab.**
BENZO(a)PYRENE	12.7	1.2E-07	5.7E-08	1.8E-07	3.7E-03	1.6E-03	5.4E-03	**ELCR Calculations are on the "OtherMut C" tab.**
BENZO(b)FLUORANTHENE	16.4	1.6E-08	7.4E-09	2.3E-08	4.8E-06	2.1E-06	6.9E-06	**ELCR Calculations are on the "OtherMut C" tab.**
BENZO(g,h,i)PERYLENE	9.34				2.8E-06	5.9E-06	8.7E-06	
BENZO(k)FLUORANTHENE	5.99	5.9E-10	2.7E-10	8.6E-10	1.8E-06	7.6E-07	2.5E-06	**ELCR Calculations are on the "OtherMut C" tab.**
BIPHENYL, 1,1-	0.233	2.0E-11	1.4E-11	3.4E-11	1.4E-07	8.8E-08	2.3E-07	
CHRYSENE	13.8	1.4E-09	6.2E-10	2.0E-09	4.1E-06	1.7E-06	5.8E-06	**ELCR Calculations are on the "OtherMut C" tab.**
DIBENZO(a,h)ANTHRACENE	2.42	2.4E-08	1.1E-08	3.5E-08	7.1E-07	3.1E-07	1.0E-06	**ELCR Calculations are on the "OtherMut C" tab.**
FLUORANTHENE	25.2				2.2E-05	4.8E-05	7.0E-05	
FLUORENE	2.03				4.5E-07	9.6E-07	1.4E-06	
INDENO(1,2,3-cd)PYRENE	9.04	8.9E-10	4.1E-10	1.3E-09	2.7E-06	1.1E-06	3.8E-06	**ELCR Calculations are on the "OtherMut C" tab.**
NAPHTHALENE	1.15				5.1E-07	1.1E-06	1.6E-06	
PHENANTHRENE	22				6.5E-06	1.4E-05	2.0E-05	
PYRENE	25.6				7.6E-06	1.6E-05	2.4E-05	

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Trespasser Imminent Hazard - Soil: Table TSIH-2
Equations to Calculate Nonmutagenic Cancer Risk for a Trespasser (Age 11-16 Years)

Method 3 Lookup Tables Version v1123

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF$$

$$LADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{c\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{c\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
EF_{ing} or $EF_{derm} = EF_{cancer}$	0.164	event/day
ED	1	day/event
$EP = EP_{(11\text{-}16)}$	5	years
C	0.000001	kg/mg
$BW = BW_{(11\text{-}16)}$	53.8	kg
$AP_{(lifetime)}$	70	years
$SA = SA_{(11\text{-}16)}$	2470	cm^2/day
$SAF = SAF_{(11\text{-}16)}$	0.1392	mg/cm^2

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Trespasser Imminent Hazard - Soil: Table TSIH-2a

Equations to Calculate Cancer Risk for Resident (Age 11-16 Years)

All Mutagens Except Trichloroethylene and Vinyl Chloride

Method 3 Lookup Tables Version v1123

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing(11\text{-}16)} * CSF$$

$$LADD_{ing\ (11\text{-}16)} = LADD_{ing\ (11\text{-}16)} * ADAF_{\ (11\text{-}16)}$$

$$LADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{c\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP_{cancer}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm\ (11\text{-}16)} * CSF$$

$$LADD_{derm\ (11\text{-}16)} = LADD_{derm\ (11\text{-}16)} * ADAF_{\ (11\text{-}16)}$$

$$LADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{c\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP_{cancer}}$$

NOTE: These calculations are based on EPA's default method for accounting for early life exposures to mutagenic compounds.

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{c\text{-}ing}$ or $RAF_{c\text{-}derm}$	OHM specific	dimensionless
EF_{ing} or EF_{derm} = EF_{cancer}	0.164	event/day
ED	1	day/event
$EP = EP_{(11\text{-}16)}$	5	years
C	0.000001	kg/mg
$BW = BW_{(11\text{-}16)}$	53.8	kg
AP_{cancer}	70	years
$SA = SA_{(11\text{-}16)}$	2470	cm^2/day
$SAF = SAF_{(11\text{-}16)}$	0.1392	mg/cm^2
$ADAF_{(11\text{-}16)}$	3	dimensionless

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All Mutagens Except Trichloroethylene and Vinyl Chloride

Method 3 Lookup Tables Version v1123

Oil or Hazardous Material (OHM)	EPC (m/kg)
BENZO(a)ANTHRACENE	1.3E+01
BENZO(a)PYRENE	1.3E+01
BENZO(b)FLUORANTHENE	1.6E+01
BENZO(k)FLUORANTHENE	6.0E+00
CHRYSENE	1.4E+01
DIBENZO(a,h)ANTHRACENE	2.4E+00
DICHLOROMETHANE	
INDENO(1,2,3-cd)PYRENE	9.0E+00

Trespasser Imminent Hazard - Soil: Table TSIH-5a Chemical-Specific Data

Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Subchronic RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
BENZO(a)ANTHRACENE	1.0E-01	0.30	0.02	3.0E-01	0.3	0.02
BENZO(a)PYRENE	1.0E+00	0.30	0.02	3.0E-04	0.3	0.02
BENZO(b)FLUORANTHENE	1.0E-01	0.30	0.02	3.0E-01	0.3	0.02
BENZO(k)FLUORANTHENE	1.0E-02	0.30	0.02	3.0E-01	0.3	0.02
CHRYSENE	1.0E-02	0.30	0.02	3.0E-01	0.3	0.02
DIBENZO(a,h)ANTHRACENE	1.0E+00	0.30	0.02	3.0E-01	0.3	0.02
DICHLOROMETHANE						
INDENO(1,2,3-cd)PYRENE	1.0E-02	0.30	0.02	3.0E-01	0.3	0.02

Excess Lifetime Cancer Risk (ELCR) Calculations

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	Derm & Ing $ELCR_{total}$
BENZO(a)ANTHRACENE	1.3E+01	1.2E-08	5.6E-09	**1.8E-08**
BENZO(a)PYRENE	1.3E+01	1.2E-07	5.7E-08	**1.8E-07**
BENZO(b)FLUORANTHENE	1.6E+01	1.6E-08	7.4E-09	**2.3E-08**
BENZO(k)FLUORANTHENE	6.0E+00	5.9E-10	2.7E-10	**8.6E-10**
CHRYSENE	1.4E+01	1.4E-09	6.2E-10	**2.0E-09**
DIBENZO(a,h)ANTHRACENE	2.4E+00	2.4E-08	1.1E-08	**3.5E-08**
DICHLOROMETHANE				
INDENO(1,2,3-cd)PYRENE	9.0E+00	8.9E-10	4.1E-10	**1.3E-09**

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Trespasser Imminent Hazard - Soil: Table TSIH-3

Equations to Calculate Subchronic Noncancer Risk for a Trespasser (Age 11-12 Years)

Method 3 Lookup Tables Version v1123

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
EF_{ing} or $EF_{derm} = EF_{subchronic}$	0.286	event/day
ED	1	day/event
$EP = EP_{(11\text{-}12)}$	0.575	years
C	0.000001	kg/mg
$BW = BW_{(11\text{-}12)}$	48.4	kg
$AP = AP_{subchronic}$	0.575	year
$SA = SA_{(11\text{-}12)}$	2277	cm^2 / day
$SAF = SAF_{(11\text{-}12)}$	0.1411	mg/cm^2

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Trespasser Imminent Hazard - Soil: Table TSIH-4
Definitions and Exposure Factors

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table TSIH-5
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table TSIH-5
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
IR - Soil Ingestion Rate	50	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm)
RAF_c - Relative Absorption Factor for Cancer Effects (exposure route specific)	chemical specific	dimensionless	
$EF_{subchronic}$ - Exposure Frequency for subchronic ingestion or dermal exposure	0.286	event/day	2 days/week
EF_{cancer} - Exposure Frequency for cancer, ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(11-12)}$ - Subchronic Exposure Period for age group 11-12	0.575	years	30 weeks
$EP_{(11-16)}$ - Exposure Period for age group 11-16 (for mutagenic cancer)	5	years	
$BW_{(11-12)}$ - Body Weight for age group 11-12 (noncancer)	48.4	kg	MassDEP Method 1 Standards, 2019. 50th% females.
$BW_{(11-16)}$ - Body Weight for age group 11-16	53.8	kg	Ibid Note for $BW_{(11-12)}$
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.575	years	30 weeks
AP_{cancer} - Averaging Period for lifetime	70	years	
$SA_{(11-12)}$ - Surface Area for age group 11-12 (non-cancer)	2277	cm^2/day	SSA - 50th percentile female body surface area from EPA EFH 2011, adjusted by MassDEP risk characterication methodology. (See MassDEP MCP Method 1 Forms and documentation, https://www.mass.gov/doc/summary-of-proposed-mcp-method-1-standards-revisions/download..) Sources of data: (1) EPA Exposure Factors Handbook, 2011 Edition (EPA EFH 2011), Chapter 7, "Table 7-11. Mean and Percentile Skin Surface Area (m2) Derived From U.S. EPA Analysis of NHANES 1999–2006 for Children <21 Years and NHANES 2005–2006 for Adults >21 Years, Females", p 7-43. EPA/600/R-090/052F, September 2011. (https://rais.ornl.gov/documents/EFH_2011.pdf); and (2) EPA Exposure Factors Handbook (1997, Final Report), Table 6-7 (child), and Table 6-3 (age 18+) (https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=12464).
$SA_{(11-16)}$ - Surface Area for age group 11-16 (mutagenic and nonmutagenic cancer)	2470	cm^2/day	Ibid Note for $SA_{(11-12)}$
$SAF_{(11-12)}$ - Surface Adherence Factor, Trespasser, for age group 11-12	0.1411		SAF developed for Short Forms according to procedures outlined in Appendix 11-F of MassDEP MCP Risk Characterization Guidance for Disposal Sites, 2024. See SAA tab in Method 3 Lookup Tables Version v1123.xlsx.
$SAF_{(11-16)}$ - Surface Adherence Factor, Trespasser, for age group 11-16	0.1392	mg/cm^2	Ibid Note for $SAF_{(11-12)}$
ADAF - Age Defined Adjustment Factor for age group 11-16 (for mutagenic effects)	3	dimensionless	

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Trespasser Imminent Hazard - Soil: Table TSIH-5
Chemical-Specific Data

Method 3 Lookup Tables Version v1123

Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Subchronic RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Notes
ANTIMONY				4.0E-04	1	0.1	
ARSENIC	1.5E+00	0.50	0.03	3.0E-04	0.5	0.03	
BARIUM				7.0E-02	1	0.1	
BERYLLIUM				5.0E-03	1	0.1	
CADMIUM				5.0E-04	0.5	0.01	
CHROMIUM (TOTAL)				2.0E-02	1	0.1	
LEAD				7.5E-04	0.5	0.006	
NICKEL				2.0E-02	1	0.2	
SELENIUM				5.0E-03	1	0.01	
SILVER				5.0E-03	1	0.3	
VANADIUM				9.0E-03	1	0.1	
ZINC				3.0E-01	1	0.1	
THALLIUM				8.0E-04	1	0.01	
MERCURY				3.0E-04	0.5	0.1	
POLYCHLORINATED BIPHENYLS (PCBs)	2.0E+00	1.00	0.10	5.0E-05	1	0.1	
ACENAPHTHENE				2.0E-01	0.3	0.1	
ACENAPHTHYLENE				3.0E-01	0.3	0.1	
ANTHRACENE				1.0E+00	0.3	0.1	
BENZO(a)ANTHRACENE	1.0E-01	0.30	0.02	3.0E-01	0.3	0.02	
BENZO(a)PYRENE	1.0E+00	0.30	0.02	3.0E-04	0.3	0.02	
BENZO(b)FLUORANTHENE	1.0E-01	0.30	0.02	3.0E-01	0.3	0.02	
BENZO(g,h,i)PERYLENE				3.0E-01	0.3	0.1	
BENZO(k)FLUORANTHENE	1.0E-02	0.30	0.02	3.0E-01	0.3	0.02	
BIPHENYL, 1,1-	8.0E-03	1.00	0.10	5.0E-01	1	0.1	
CHRYSENE	1.0E-02	0.30	0.02	3.0E-01	0.3	0.02	
DIBENZO(a,h)ANTHRACENE	1.0E+00	0.30	0.02	3.0E-01	0.3	0.02	
FLUORANTHENE				1.0E-01	0.3	0.1	
FLUORENE				4.0E-01	0.3	0.1	
INDENO(1,2,3-cd)PYRENE	1.0E-02	0.30	0.02	3.0E-01	0.3	0.02	
NAPHTHALENE				2.0E-01	0.3	0.1	
PHENANTHRENE				3.0E-01	0.3	0.1	
PYRENE				3.0E-01	0.3	0.1	

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