Corrective Action Plan/Risk-Based Cleanup Plan: Edgar May Health and Recreation Center

140 Clinton Street
Springfield, Vermont
SMS #2009-3906

STONE
ENVIRONMENTAL

PROJECT NO.

20-069

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Title and Approval Page

Document Title

Corrective Action Plan/Risk-Based Cleanup Plan: Edgar May Health and Recreation Center, 140 Clinton Street, Springfield, Vermont, SMS #2009-3906

August 8, 2024

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I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct.

August 8, 2024

Signature Date

Katrina Mattice, PE, Environmental Engineer, Stone Environmental, Inc.

By my signature, as a Vermont Registered Engineer that I hereby certify that I have reviewed this document.

Katrina J. Mattice

August 8, 2024

Signature Date

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Executive Summary

Stone Environmental, Inc. (Stone) has prepared this Corrective Action Plan and Risk-Based Cleanup Plan (CAP/RBCP) for the Springfield Medical Care Systems (SMCS) property located at 140 Clinton Street in Springfield, Vermont (the Site; Figure 1 in Appendix A). Previous environmental assessments of the Site identified polychlorinated biphenyls (PCBs) in building materials of a former foundry building (Plant #4) that will require remediation prior to or during planned renovation. Recent investigations have focused on further assessment of the degree and extent of PCBs in former foundry building materials to support preparation of the CAP/RBCP. Additional environmental conditions addressed in this CAP include management of PCB and polycyclic aromatic hydrocarbon (PAH) contaminated exterior soil, PAH contaminated groundwater, and benzene contaminated soil gas below the Plant #4 building.

The Site is comprised of a 1.6-acre triangular parcel located at 140 Clinton Street in Springfield, Vermont. The Site is bordered to the north/northeast by the Black River, to the southwest by Clinton Street, and to the southeast by Bridge Street. North of the river is the current location of the Springfield Fire Department and former location of the Springfield Foundry casting plant. East of Bridge Street is the former Jones & Lamson Plant #1 (J&L 1, VT DEC, SMS #77-0122). Southwest of Clinton Street are the residential neighborhoods of Furnace and Olive Streets and commercial businesses on Clinton Street. A vicinity map is provided as Figure 2 in Appendix A.

Two structures currently stand on the property: the Edgar May Health and Recreation Center (EMHRC) building constructed in 2005 – 2006 and the former Plant #4 building constructed sometime between 1910 and 1921. The EMHRC building houses recreation facilities. The former Plant #4 building is comprised of a large, free-span interior space with a smaller addition on the west side of building known as the annex. Access to the building is currently restricted. An industrial gantry crane is positioned within the main portion of the former Plant #4 building. A basement is present under the northernmost portion of the main building. The concrete slab within both sections of the building contain markings, conduits, and anchor points indicative of the former presence of machinery. A former paint downdraft table is located at the northeast end of the main interior space.

Past land use at the Site includes over 50 years of use for various components of foundering by multiple companies. Activities within the former Plant #4 building began with cleaning of cast parts forged at the main foundry using air-powered die grinders. However, this use evolved to include machining and painting of parts prior to distribution to local machine shops. Operations within the former Plant #4 building ceased in 1966, after which the building sat largely unused until it was donated to the Southern Vermont Health and Recreation Center Foundation (SVHRCF) in 1985 by Stanley Patch, the Site owner at that time. The Site was purchased by SMCS in October 2012 but leases operations of the EMHRC to SVHRCF.

EMHRC has a three-phase redevelopment plan for the Site. Phase I included the construction of the EMHRC building in 2006, as described above. Phase II is the next planned phase of Site redevelopment and includes demolition of the annex and construction of a new building to span between the EMHRC and Plant #4 buildings. Phase III includes renovation of the Plant #4 building as an indoor recreation space.

PCBs are regulated by the United States Environmental Protection Agency (EPA) under 40 CFR § 761, under the authority of Toxic Substance Control Act (TSCA). PCBs present within the concrete floor and non-porous surfaces (the gantry crane) require TSCA cleanup oversight for the following reasons:

- PCBs are present at levels above 1.0 milligrams per kilogram (mg/Kg) in porous materials and above 10 micrograms per 100 square centimeters ($\mu g/100\ cm^2$) on non-porous surfaces,
- PCBs are presumed to have been released from a source or sources with unknown PCB concentrations, and
- Oil leaks from the gantry crane have resulted in releases of PCB contaminated oil after 1978.

PCBs are ubiquitous in paint throughout the Plant #4 building interior and require removal as a PCB bulk product waste. Paint will be removed by media blasting prior to Site redevelopment. Non-porous surfaces (e.g., the gantry crane) will be decontaminated in accordance with 40 CFR §761 Subpart S and post-cleanup verification completed in accordance with 40 CFR §761 Subpart P.

An Evaluation of Corrective Action Alternatives (ECAA) to prevent unacceptable exposure to PCBs in the concrete slab was completed in accordance with EPA and Vermont Department of Environmental Conservation (VT DEC) criteria (Stone, 2021). Cleanup alternatives considered included:

1. Alternative 1: No Action,
2. Alternative 2: Targeted concrete removal and installation of a 6-inch of concrete cap,
3. Alternative 3: Remove entire concrete slab and pour a new slab,
    a. Alternative 3a: < 1.0 mg/Kg Cleanup Level,
    b. Alternative 3b: < 10 mg/Kg Cleanup Level, and
4. Alternative 4: PCB extraction using a solvent and emulsifier (i.e., CAPSUR®).

Demolition of the Plant #4 annex and management of the annex concrete slab as a PCB remediation waste was germane to each cleanup alternative considered.

The recommended corrective action alternative is Alternative 3a: slab removal and new slab installation with a 1.0 mg/Kg cleanup level.

Corrective actions have been further developed and are included in this CAP/RBCP as follows:

- Removal of paint from the interior of the former Plant #4 building (walls and ceiling) as a PCB bulk product waste.
- Demolition of the portion of the former Plant #4 building known as the annex and management of demolition debris.
- Decontamination of the gantry crane structure, crane rails, and metal sliding door in accordance with 40 CFR §761 Subpart S and subsequent cleanup verification sampling in accordance with 40 CFR §761 Subpart P.
- Removal of the former Plant #4 building concrete slab and disposal as PCB remediation waste and subsequent cleanup verification sampling.
- Management of PAH and PCB contaminated exterior soil via on-Site encapsulation below an engineered barrier.
- Long-term groundwater monitoring for PAHs and closure of most Site monitoring wells in accordance with the Vermont Water Supply Rule.
- Vapor barrier installation to mitigate the risk of benzene vapor intrusion.

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Cover Photo:
Former Plant #4
machine room.
October 2020

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1. Introduction

Stone Environmental, Inc. (Stone) has prepared this Corrective Action Plan and Risk-Based Cleanup Plan (CAP/RBCP) for the Springfield Medical Care Systems (SMCS) property located at 140 Clinton Street in Springfield, Vermont (the Site; Figure 1 in Appendix A). Previous environmental assessments of the Site identified polychlorinated biphenyls (PCBs) in building materials of a former foundry building (Plant #4) that will require remediation prior to or during planned renovation. Recent investigations have focused on further assessment of the degree and extent of PCBs in former foundry building materials to support preparation of the CAP/RBCP. Additional environmental conditions addressed in this CAP include management of PCB and polycyclic aromatic hydrocarbon (PAH) contaminated exterior soil, PAH contaminated groundwater, and benzene contaminated soil gas below the Plant #4 building. This CAP/RBCP was revised based on comments received from Brian Drake, US EPA Region 1 TSCA Section in an email dated March 13, 2023 and subsequent additional comments received on June 11, 2024.

This CAP/RBCP has been prepared to prevent the risk of exposure to Site users through direct contact with contaminated building materials and soils. The corrective actions described in this CAP/RBCP include:

1. Demolition of the portion of the former Plant #4 building known as the annex and management of demolition debris and subsequent cleanup verification sampling in accordance with 40 CFR §761 Subpart O.
2. Removal of paint from the interior of the former Plant #4 building as a PCB bulk product waste and subsequent cleanup verification sampling.
3. Decontamination of the gantry crane structure, rails, and steel door in accordance with 40 CFR §761 Subpart S and subsequent cleanup verification sampling in accordance with 40 CFR §761 Subpart P.
4. Removal of the former Plant #4 building concrete slab and subsequent cleanup verification.
5. On-Site disposal of PCB and PAH contaminated soil.
6. Long-term groundwater monitoring for PAHs and closure of most Site monitoring wells.
7. Vapor barrier installation to mitigate the risk of benzene vapor intrusion.

Exterior soils contain PAHs and PCBs at concentrations that exceed the Vermont Soil Standards (VSS) for residential properties; PCB concentrations in exterior soils do not exceed the Toxic Substance Control Act (TSCA) walkaway criteria of 1.0 milligrams per kilogram (mg/Kg). Soils disturbed during Phase II of the redevelopment project (Section 1.3) will require management.

Monitoring wells on Site will be abandoned in accordance with the Vermont Water Supply Rule (VT DEC, 2020).

SMCS is enrolled in the Vermont Brownfields Reuse and Environmental Liability Limitation Act (BRELLA) program. The Certificate of Completion will include institutional controls for ongoing management of the property.

1.1. Site Description

The Site is comprised of a 1.6-acre triangular parcel located at 140 Clinton Street in Springfield, Vermont, which is located at approximately 43.29150° north latitude and 72.47319° west longitude. The Site is owned by SMCS, which leases the property to the Southern Vermont Health and Recreation Center Foundation (SVHRCF). The Site is bordered to the north/northeast by the Black River, to the southwest by Clinton Street and to the southeast by Bridge Street. North of the river is the current location of the Springfield Fire Department and former location of the Springfield Foundry casting plant. East of Bridge Street is the former Jones & Lamson Plant #1 (J&L 1, VT DEC, SMS #77-0122). Southwest of Clinton Street are the residential neighborhoods of Furnace and Olive Streets. A vicinity map is provided as Figure 2 in Appendix A.

Two structures currently stand on the property: the Edgar May Health and Recreation Center (EMHRC) building constructed in 2005 – 2006 and operated by SVHRCF; and the former Plant #4 building constructed sometime between 1910 and 1921. The EMHRC building houses an indoor swimming pool, fitness classrooms, exercise room, administrative offices, and locker room facilities. The former Plant #4 building is approximately three stories tall and is comprised of a large open interior space with a smaller addition on the west side of building known as the annex (Figure 3). The Plant #4 building is approximately 19,915 square feet (ft^2) including the annex, which is approximately 3,010 ft^2. Access to the building is currently restricted. An industrial gantry crane, approximately 70 feet wide, is positioned within the large bay of the former Plant #4 building. A basement is present under the northernmost approximately 1,600 ft^2 of the building. The only access to the basement is via ladder through an opening in the slab in the northeast corner of the building. The concrete slab within both sections of the building contains markings, conduits, and anchor points indicative of the former presence of machinery (Figure 3). A paint downdraft table was located at the northeast end of the main portion of the building.

A grassy area comprises the western third of the property and has recently been improved with a climbing tower, fencing, and a field turf space. A former sluiceway is located below the grassy area and was formerly used as a water intake from the Black River to power historical industrial practices at the Site. The sluiceway was infilled in 2014 during remedial actions. On the eastern side of this grassy area are underground storage tanks (USTs) containing propane, which supply fuel to heating equipment within the EMHRC building. Asphalt sidewalks and narrow grass areas are found between the two Site buildings and on the northern and southern sides of the former Plant #4 building. Small asphalt parking lots are located to the east and south of the former Plant #4 building. A Site map is provided as Figure 3 in Appendix A.

The Site is situated at 350 feet above mean sea level and is located immediately south of the Black River. Topography is generally flat, sloping slightly to the north and east. A stone and concrete retaining wall separates the Black River from the western half of the Site. The eastern half of the Site is separated from the Black River by a steeply sloping narrow stream bank. The river edge along the eastern half of the Site has been subject to in-filling by past foundry operations and is currently vegetated with trees and low growing shrubs. Foundry fill materials include swarf (fine chips or filings of stone, metal, and cutting fluids produced by machining operations).

1.2. Site History

Past land use at the Site includes over 50 years of use for various components of foundering by multiple companies, including the Vermont Snath Company and Vermont Foundries, Inc. (an entity formerly owned by the Fellows Gear Shaper and Jones & Lamson companies). Activities within the former Plant #4 building began with cleaning of cast parts forged at the main foundry using air-powered die grinders. However, this use evolved to include machining and painting of parts prior to distribution to local machine shops.

Operations within the former Plant #4 building ceased in 1966, after which the building sat largely unused until it was donated to the SVHRCF in 1985 by Stanley Patch, the owner at that time. The EMHRC has periodically hosted events, such as the First Night running race, within the former Plant #4 building. The Site was purchased by SMCS in October 2012 but leases operations of the EMHRC to SVHRCF. The EMHRC building is in operation as a recreation facility that serves the surrounding community with swimming and therapy pools, exercise rooms, and associated facilities.

The portion of the Site that is currently occupied by the recreation center was previously the home of the main foundry before these operations were moved to a plant located north of the Black River. Recent activities in this area of the Site include training of machinists by a co-operative associated with the Springfield High School.

Properties adjacent to the Site, presently and historically, have included an automobile service or sales business, a petroleum retailer, a dry cleaner, an electroplating facility, machine shops, a manufactured gas plant, restaurants, and private residences.

1.3. Redevelopment Plans

EMHRC has a three-phase redevelopment plan for the Site. Phase I included the construction of the EMHRC building, as described above, in 2006. Phase II is the next planned phase in redeveloping the Site and includes demolition of the annex portion of the Plant #4 building and construction of a new building that will span between the current EMHRC building and Plant #4. The addition also includes approximately 1,600 $ft^2$of renovated space within the northwest corner of the Plant #4 building and totaling approximately 4,900 $ft^2$of new construction. The addition will provide two additional classroom spaces, a new lobby, climbing wall, and offices. EMHRC is considering a future addition of a second floor to the new construction portion of the Phase II project for use as a daycare facility. Phase III includes converting the remaining portion of the Plant #4 building into a multi-purpose field house. Conceptual drawings of the proposed Phase II and Phase III construction are provided as Figures 4 and 5 in Appendix A.

1.4. Property Site Contact

The current Site contact is:

Christian Craig / Executive Director
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140 Clinton Street
Springfield, VT 05156
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1.5. Prior Environmental Investigations

A summary of previous studies relevant to the Site is provided below. Previous PCB sample locations and results are depicted on Figures 6 through 10 (Appendix A). Analytical data from previous environmental investigations is tabulated in the following Appendix B tables:

- Table B-1: PCB Analytical Results – Caulk, Glazing, and Paint Samples
- Table B-2: PCB Analytical Results – Masonry Samples
- Table B-3: PCB Analytical Results – Concrete and Wood Samples
- Table B-4: PCB Analytical Results – Soil Samples

- Table B-5: PCB Analytical Results – Sediment Samples
- Table B-6: PCB Analytical Results – Wipe Samples
- Table B-7: PCB Analytical Results – Groundwater Samples
- Table B-8: Metals Analytical Results – Soil Samples
- Table B-9: Metals Analytical Results – Groundwater Samples
- Table B-10: Metals Analytical Results – Sediment Samples
- Table B-11: Volatile organic Compound (VOC) Analytical Results – Groundwater Samples
- Table B-12: VOC Analytical Results – Soil Gas Samples
- Table B-13: VOC Analytical Results – Pore Water Samples
- Table B-14: Polycyclic Aromatic Hydrocarbon (PAH) Analytical Results – Groundwater Samples
- Table B-15: PAH Analytical Results – Soil Samples
- Table B-16: PAH Analytical Results – Sediment Samples

1.5.1. Soil Sampling, October 2000

In October 2000, Dufresne and Henry, Inc. oversaw the collection of three soil samples and two groundwater samples to determine whether environmental contamination might impede the construction of the EMHRC building. The location, depths, and objectives of these samples are unknown. Traces of commonly used solvents (2-butanone and acetone) were detected in groundwater at concentrations less than their respective Vermont Groundwater Enforcement Standard (VGES). Arsenic, beryllium, cadmium, copper, lead, nickel, and thallium were detected in groundwater at concentrations in excess of their respective VGES. It is worth noting that the groundwater samples collected by Dufresne and Henry Inc. were turbid, such that soil was present within the sample when it was received by the laboratory. Groundwater samples were also preserved in the field with nitric acid. Typical metals sampling protocol dictates that the sample be filtered prior to acidification to remove soil particles that would otherwise become soluble. The result is a groundwater sample in which the measured concentrations of metals are not representative of true concentrations of metals dissolved in groundwater under natural conditions. Such samples commonly overstate the true groundwater concentrations. At the time of the sampling, detection limits for several PAHs were above the VGES; however, no PAHs were detected above the laboratory detection limits.

1.5.2. Soil Excavation and Stockpiling, November 2007

In November 2007, M&W Soils Engineering Inc. performed sampling and analysis of soils excavated as part of the construction of the swimming pool within the EMHRC Building. These soils were temporarily stockpiled on the adjacent J&L #1 property prior to proper disposal. Samples collected from stockpiled soils confirmed the presence of PAHs at concentrations greater than the Soil Regional Screening Levels (RSLs) published by the EPA. Some of the excavated soils were also used for infilling a former underground storage tank (UST) that was closed in place at the J&L property.

1.5.3. Phase I ESA, August 2009

In August 2009, under contract with SVHRF, the Site owners at that time, Stone conducted a Phase I ESA at the Site in accordance with ASTM 1527-05. The Phase I ESA Report identified the following recognized environmental conditions (RECs) associated with the Site:

- REC 1: Past Site practices, including the use of air compressor-powered tools, coal combustion, machining, hazardous material storage, and the painting of machined parts that may have resulted in the release of volatile organic compounds (VOCs), PAHs, PCBs, metals, and cyanide to Site soils and/or groundwater.
- REC 2: The suspected use of chlorinated solvents at the Site.

- REC 3: The former presence of two, 1,000-gallon fuel oil storage tanks within the former western Site building.
- REC 4: The position of the Site within an urban setting with a long-running history of occupancy and activities that may have resulted in undocumented releases of hazardous materials to the environment that may have migrated on-Site (e.g., from the former gasoline retailer, various automotive repair facilities, and a former dry cleaner located upgradient of the Site).
- REC 5: The position of the Site adjacent to a State of Vermont listed Hazardous Waste Site (Jones & Lamson) that has had documented use and reported releases of chlorinated solvents and PCB-contaminated machine cutting oils.

1.5.4. Initial Phase II ESA, 2010

Based on the findings of the August 2009 Phase I ESA, Stone recommended that a Phase II ESA be performed to assess whether the RECs resulted in a release of hazardous materials to the environment and, if necessary, to determine the degree, nature, and extent of the release(s).

In fall and winter 2010, Stone, under contract with Southern Windsor County Regional Planning Commission (SWCRPC), implemented a Phase II ESA to further evaluate RECs associated with the Site. The Phase II ESA included collection of soil, groundwater, sediment, soil gas, and building material samples for subsequent analysis of target contaminants of concern including metals, VOCs, PAHs, PCBs, and cyanide. Findings from the 2010 Phase II ESA include:

- Select metals and PAHs were detected in shallow Site soils and sediment in the Black River at concentrations above EPA RSLs and Vermont Department of Environmental Conservation (VT DEC) sediment quality guidelines (SQG), respectively.
- Soil gas concentrations indicated exceedances of the Vermont resident Vapor Intrusion Standard (VIS) in two samples for benzene (SG-3 and SG-9, located beneath the Plant #4 Building).
- 1,3-butadiene was detected in two soil gas samples collected below the former Plant #4 building and two location in the northwest portion of the Site. There currently is no VIS for 1,3-butadiene.
- PCBs were detected in building materials within the former Plant #4 building at concentrations that warrant remedial action prior to redevelopment. Elevated PCB concentrations are attributed to past Site practices (REC 1) (e.g., use of PCB-laden lubrication fluids or machine oils, etc.).
- No significant Site impacts were identified in association with RECs 2, 3 and 5.
- Potential Site impacts from possible undocumented releases of hazardous materials associated with historic operations upgradient of the Site (REC 4) could not be fully assessed during the Phase II ESA because drilling conditions prevented installation of monitoring wells within the western portion of the Site.

Based on the results of the initial Phase II ESA, Stone identified the following data gaps:

- The initial characterization of PCB contamination within the former Plant #4 building is insufficient to prepare a Risk Based Cleanup Plan (RBCP) under EPA TSCA Division requirements.
- Groundwater quality has not been adequately assessed.
- Since the completion of the initial Phase II ESA, the Site owner proposed construction of a footbridge over the Black River within redevelopment plans. These plans have since been abandoned. However, at the time, soil quality within the excavation area required to construct the footbridge was considered a data gap. Contaminants of concern in this area of the Site included PAHs, PCBs, and metals in soils.

- Based on concentration data from nearby properties, the VT DEC requested further assessment of foundry swarf[1] found within riverbank sediments to evaluate potential PCB contamination.

1.5.5. Supplemental Phase II ESA, 2011

Stone performed a supplemental Phase II ESA at the Site in August 2011 under contract to the VT DEC Brownfield Response Program, and on behalf of SVHRF. The supplemental Phase II ESA was designed to address the data gaps identified by the initial Phase II ESA, and to identify corrective actions necessary to address the releases of hazardous materials identified at the Site.

Supplemental site investigation activities included the installation of additional monitoring wells, collection of groundwater samples for VOC, PAH, PCB, and metals analyses, the collection of soil samples from borings performed in the area of the proposed foot bridge, and collection of swarf, sediment, and porewater samples from the

Black River. Stone also conducted additional sampling of building materials in the foundry building for analysis of PCBs to gather sufficient data to develop a RBCP in accordance with 40 CFR §761.61(c) for PCB contamination present within the former Plant #4 building.

Findings from the Supplemental Phase II ESA included:

- Site soils were found to be impacted by PAHs at concentrations exceeding current resident VSS throughout the Site and exceeding the current non-resident VSS northwest of the EMHRC building.
- Arsenic was identified in soil at concentrations exceeding EPA RSLs but at concentrations below the Statewide background concentration of 16 mg/Kg.
- PCBs were detected at concentrations exceeding current resident VSS and at one location at a depth of two feet below ground surface (bgs) at a concentration slightly above the non-resident VSS of 0.68 mg/Kg.
- Groundwater contamination at the Site is related to past Site uses and those of upgradient properties.
  - Benzene detected in bedrock monitoring wells within the western (MW-11) and eastern (MW-14) portions of the Site at concentrations exceeding VGES are likely migrating onto the Site from an off -Site source.
  - During the August 2011 sampling event, total metals were detected above the VGES in three monitoring wells (GW-3, GW-5, and MW-14); no metals exceeded the VGES in GW-3, GW-5, or GW-7 in samples collected in July 2010. Exceedances are attributed to natural occurrence, an off-Site source, or elevated sample turbidity (MW-14 and GW-3, only).
  - Benzo(a)pyrene concentrations in excess of the VGES detected in groundwater at the downgradient Property boundary (GW-3) suggests groundwater has been impacted by past Site activities or buried contaminated fill.
  - PCBs were not detected in groundwater samples.

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[1] Foundry swarf consists of waste iron and die-grinding stone that result from grinding cast parts. When left exposed to the elements, the materials oxidize and fuse together in a cohesive layer.

  - VOCs were not detected in porewater samples collected using passive diffusion bags installed in Black River sediments.
- Soil gas results indicate that shallow vadose zone soils contain concentrations of 1,3-butadiene and benzene in excess of the Vermont Vapor Intrusion Screening Values (VISV) in place at the time of the Supplemental Phase II ESA.
  - 1,3-butadiene's major environmental source is the incomplete combustion of fuels from mobile sources (e.g., automotive exhaust) and it is not believed to be from a specific release on-Site. However, blast furnaces and steel work operations are potential Site sources for 1,3-butadiene.
  - Benzene concentrations in shallow soil gas were slightly greater than the current resident VIS but below the non-resident VIS in two soil gas samples collected below the former Plant #4 building. Due to the relatively low concentrations and rapid degradation of benzene under aerobic conditions, the risk of vapor intrusion resulting in unacceptable concentrations of benzene in indoor air appears low.
- Black River sediments contain elevated concentrations of several Site contaminants including metals, PAHs, and, in one sample, PCBs above the VT DEC SQG Threshold Effect Concentration (TEC).
  - The Probable Effects Concentration (PEC) was exceeded by copper and several PAHs in one sample collected during the 2010 Phase II ESA that was located inside the sluiceway structure. Based on the distribution and types of contaminants observed in Site soils, it is possible that some of the observed sediment, metals, and PAH contamination is related to erosion and subsequent deposition of contaminated soil from the Site via stormwater runoff.
  - Since only one sample contained copper and PAH concentrations in excess of the PEC, and concentrations do not remain elevated downstream of the Site, sediment contamination does not appear to be pervasive; as such, corrective action does not appear to be warranted.
- PCB concentrations within the foundry building are at concentrations that require remedial action prior to continued use of the structure or redevelopment.
  - Approximately 3,100 $ft^2$of the slab and 240 $ft^2$of the interior walls contained total PCBs at concentrations greater than 50 mg/Kg.
  - Approximately 11,000 $ft^2$of slab and 345 linear feet of the interior walls contained total PCBs at concentrations greater than 10 mg/Kg.
  - The balance of the interior is less than 1.0 mg/Kg total PCBs.

1.5.6. Corrective Action Feasibility Investigation, 2011

Stone conducted a Corrective action Feasibility Investigation (CAFI) to evaluate redevelopment options and associated remedial alternatives for addressing PCB-contaminated building materials within the former Plant #4 building. The CAFI did not address shallow soil contamination since excavation and capping were previously selected as a remedial alternative for this medium. The purpose of the CAFI was to evaluate the restrictions and costs associated with various redevelopment options to assist stakeholders in selecting a redevelopment plan for the former Plant #4 building and aid in the development of a CAP. The CAFI evaluated the following remedial alternatives:

- Building Demolition and Re-construction for High Occupancy Use,
- Building Demolition for Parking lot (Low- Occupancy Use), and
- Renovation of Existing Building for High-Occupancy Use (five options were evaluated under this alternative).

Since the CAFI was conducted, redevelopment goals at the Site have been altered to include construction of an addition between the Site buildings and interior parking is no longer proposed.

1.5.7. 2013 Partial CAP/CAFI, 2013

Stone prepared a Partial CAP/CAFI to address the contaminated soils present west of the EMHRC building in order to support the planned construction of a playground in that area of the Site. The recommended remedial alternative identified in the CAFI included targeted excavation, transport, and disposal of surface soils, capping the proposed playground area, and emplacing an institutional control in the form of a Notice to Land Records on the Property Title Deed.

Remedial actions were performed by Gurney Brothers Construction (Burney Bros.) of North Springfield, Vermont, with environmental oversight provided by Stone, between May 8 and September 26, 2014. Key remedial actions were documented in a Remedial Action Report (Stone, October 2014) and included:

- Soil sampling and analysis for waste characterization,
- Obtaining an Authorization to Conduct Stream Alterations permit from the Vermont River's Program,
- Vegetation clearing along northern Site boundary,
- Closure of the former sluiceway in-take structures,
- Encapsulation of contaminated soils on-Site within the former vault associated with the in-take structures,
- Excavation, transport, and disposal of contaminated soils from both the proposed playground area and the stockpile located on the adjacent J&L property. Soils were excavated to a depth of two feet bgs across the extent of the proposed playground area,
- Installation of a geotextile fabric within the excavation to serve as an indicator layer,
- Backfilling the excavation with imported clean fill,
- Compaction and surface grading, and
- Emplacing a Notice to Land Records on the Title Deed of the Property, detailing the remedial actions taken at the Site and the location of contaminated soil remaining below the proposed playground area.

1.5.8. CAP, 2016

Stone prepared a CAP detailing corrective actions required for renovations of the former Plant #4 building, which at the time was similar to the current proposed redevelopment (Section 1.3) except that the ground level of the Plant #4 building would have been renovated as a parking garage with the field house constructed on a second level above the parking garage. This would have allowed for cleanup in the former Plant #4 building to comply with low-occupancy TSCA thresholds. The CAP was submitted to VT DEC and approved via letter from VT DEC to Mark Blanchard of SMCS dated March 16, 2016 but was never implemented. Corrective actions described in the CAP included:

- Decontamination of the gantry crane and metal door.
- Demolition of the annex and management of building materials and soils generated during construction of the recreation building addition.
- Removal and off-Site disposal of concrete slab containing PCBs at concentrations > 100 mg/Kg.
- Capping remaining PCB-contaminated slab with asphalt.
- Cleaning masonry walls and ceiling and encapsulating with two contrasting colors of epoxy-based paint.
- Implementing an institutional control that designates the parking garage for low-occupancy use.

1.5.9. Supplemental Site Investigation, 2020

Stone completed a Supplemental Site Investigation (SSI) of the Plant #4 building in October and November 2020 to support remedial planning and high-occupancy use of the Plant #4 building. The SSI included collection of three caulk samples from the joints between exterior door frames and rough openings, two window glazing samples, nine paint samples collected from various surfaces and representing all paint types, ninety-three concrete slab samples, three depth discrete concrete slab samples, and three sub-slab soil samples. Co-located wipe, paint, and masonry samples were collected at three locations to evaluate whether PCBs detected in previous interior masonry wall samples were due to the inclusion of contaminated paint and/or grime in those samples. Masonry samples were collected adjacent to caulk samples to evaluate whether PCBs have diffused into the adjoining masonry. All samples were analyzed for PCBS by EPA Method 8082 with manual Soxhlet extraction.

Results indicate that caulk used around doorways does not contain PCBs at regulated concentrations. PCBs were detected in all paint samples, generally at concentrations below the bulk product waste threshold (50 mg/Kg), with the exception of paint on a metal door between the main foundry room and the annex and white paint within the annex. Co-located wipe, paint, and masonry sample results indicate that previous PCB masonry results were the result of the inclusion of PCB contaminated paint and that PCBs have not diffused into masonry at concentrations that will require remediation of the masonry as a PCB bulk product. Widespread PCB contamination in the concrete slab was further delineated, including approximately 5,875 ft^2 that contains PCBs at concentrations equal to or greater than 10 mg/Kg, requiring removal prior to high-occupancy reuse. Of this area, approximately 1,475 ft^2 has PCBs at concentrations greater than the 50 mg/Kg threshold which requires that the material be disposed of as regulated hazardous waste.

Depth discrete concrete and sub-slab soil sample results demonstrate that at areas where the highest PCB concentrations were observed on the slab surface, PCBs have diffused into and may have diffused through the slab. PCBs were detected above 1.0 mg/Kg in four depth-discrete concrete samples collected from depths ranging from three to nine inches below the slab surface and below 1 mg/Kg at one location collected from thirteen inches below the slab surface. PCBs were detected at 12 mg/Kg in one concrete sample collected from the base of a seven-inch thick slab (MS-152-7.0).

The co-located soil sample (SL-114-19; collected at 19 inches below the top of the slab) contained 6.2 mg/Kg PCBs, which may have been introduced to the sub-slab environment by cutting fluids associated with the core drill used to core through the slab.

1.5.10. Evaluation of Corrective Action Alternatives, 2021

Stone prepared an ECAA for SMCS in May 2021 as an update to the 2011 CAFI to incorporate current redevelopment plans for high occupancy reuse, update remedial cost estimates, and comply with current State of Vermont Environmental regulations (IRule, 2019).

ECAA field work included collection of thirty additional paint samples to further evaluate PCB concentrations in interior paint and support remedial planning. PCB Aroclor 1260 was detected in all paint samples collected indicating PCBs were used as a plasticizer in all interior paints. PCB concentrations > 50 mg/kg occurred in paint samples collected from white paint on the eastern and western annex walls, three doors between the Plant #4 building and annex, and the northern Plant #4 wall. Stone determined that paint should be removed and managed as a PCB bulk product during Site renovations.

Remedial alternatives considered in the ECAA to prevent unacceptable exposure to PCBs in the concrete slab included:

1. Alternative 1: No Action,
2. Alternative 2: Targeted concrete removal and installation of a 6-inch of concrete cap,
3. Alternative 3: Remove entire concrete slab and pour a new slab,
    a. Alternative 3a: < 1.0 mg/Kg Cleanup Level,
    b. Alternative 3b: < 10 mg/Kg Cleanup Level, and
4. Alternative 4: PCB extraction using a solvent and emulsifier (i.e., CAPSUR®).

Germane to all remedial alternatives was the demolition and management of the of the Plant #4 annex concrete slab as a PCB remediation waste, removal of interior paint as a PCB bulk product waste, and decontamination of the gantry crane. Alternative 3a was recommended by Stone because future Site renovations could proceed without managing building materials as PCB remediation waste, regulatory notification would not be required, there would be no operations, maintenance, and monitoring of barriers, and no institutional controls would be required. EMHRC and SMCS accepted the proposed cleanup alternative and requested Stone prepare this CAP/RBCP via email to Lee Rosberg on August 12, 2021.

1.5.11. Supplemental Assessment, 2023

Following EPA TSCA Division comments on the RBCP, reviewed during a conference call on March 15, 2023, Stone prepared a Supplemental Site Investigation (SSI) Work Plan, dated October 23, 2023 under contract with MARC using EPA Brownfield Assessment funding. The SSI included the collection of supplemental concrete and non-porous (i.e., wipe) samples to better define PCBs in select areas of the Site, specifically the former mechanical room and janitor's office in the Annex and on metal stairs in the Annex. Stone also developed an inventory of stored materials in the Foundry space and performed assessment for PCBs on representative pieces of these materials.

The SSI results are tabulated in Tables B3 and B6, attached. Laboratory reports are provided in Appendix E.

Concentration results from the SSI of PCBs in concrete are similar to those seen in other portions of the Annex ranging from 2.7 to 6.1 mg/Kg.

PCB wipe results of the metal stairs indicate the presence of PCBs above the laboratory reporting limit but below the 10 μg/ 100 cm^2 threshold; concentrations in samples collected from the stairs contained 1.1 and 0.78 ug/100 μg/ 100 cm^2 with a field duplicate containing 1.5 μg/ 100 cm^2.

Wipe samples were collected from the base of eight materials stored within the Foundry building. Table 1, below, provides a summary of wipe samples collected from stored materials. Sampling was performed on surfaces that were in direct contact with the slab. One field duplicate sample was collected immediately adjacent to the original sample in accordance with Stone SOPs.

Table 1: Summary of Wipe Sample Results, Stored Materials

Sample ID	Description	Media Type	Total PCBs (ug/100 cm^2)
WP-06	Metal file cabinet	Non-porous	**1.0**
WP-07	Metal file cabinet	Non-porous	0.05 U
WP-07-FD	Metal file cabinet	Non-porous	0.05 U
WP-08	Metal file cabinet	Non-porous	0.05 U
WP-09	Metal file cabinet	Non-porous	**0.90**
WP-010	Metal file cabinet	Non-porous	0.05 U
WP-011	PVC Pipe	Porous	0.05 U
WP-012	Metal duct work	Non-porous	**1.7**

Sample ID	Description	Media Type	Total PCBs (ug/100 cm^2)
WP-013	Metal Pipe	Non-porous	**0.66**

Bold values indicate detection of target analyte above laboratory reporting limit.

Concentrations of wipes from stored materials ranged from non-detect at 0.50 μg/ 100 cm^2 to 1.7 μg/ 100 cm^2. Concentrations of PCBs on non-porous media did not exceed the 10 ug/100 cm^2 threshold indicating these materials can be managed as solid waste or recycled. A wipe sample collected from porous material (PVC pipe) did not contain a detectable concentration of PCBs suggesting the pipe can be disposed as solid waste.

Field notes from the SSI are provided in Appendix F.

1.5.12. Interim Response – Gantry Crane, 2024

On July 25, 2024, Stone staff performed an interim response to eliminate ongoing release of oil from the Site gantry crane. Field notes from the activity are provided in Appendix F. Staff accessed the crane using an electric scissor lift and drained oil from the reservoir into labeled, US DOT approved 5-gallon buckets. Drips on the reservoir, adjacent framing, and crane hook were cleaned using sorbent pads and solvent.

1.6. Summary of Sampling Procedures

Sampling procedures utilized to assess the Site for PCBs were in accordance with Stone Standard Operating Procedures (SOPs), provide as Appendix C, and are further described as follows:

- Porous surface samples: Concrete and masonry and wood samples were collected in accordance with Stone SOP *SEI-5-64.0: Procedure for Sampling Porous Surfaces for PCB Analysis* (Appendix C*)*, which was prepared in accordance with the EPA SOP for Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (EPA, 2011).
  - Concrete samples were collected from the upper ½-inch of the slab surface except for depth discrete concrete samples, which were collected at various depths below the concrete slab surface to evaluate if PCBs have diffused into/through the slab. At each sample location, dirt and debris were swept away prior to using a hammer drill to advance multiple adjacent holes to pulverize concrete. Concrete samples were placed directly into sample containers using disposable and dedicated plastic spoons.
  - Depth discrete concrete samples were collected by recovering 6-inch concrete cores and sampling target depths from the side or bottom of the core in the same manner as described above for concrete samples.
  - One wood sample (MS26) was collected from a wood in-lay that surrounds machine bases P12 and P15. The wood sample was collected by advancing a 1-inch diameter speed bore drill bit 0.5-inch into the inlay. The resulting wood shavings were analyzed for PCBs by EPA Method 8082 with manual Soxhlet extraction.
  - Masonry samples were collected in the same manner as concrete samples except dedicated and disposable aluminum foil was used to collect pulverized masonry. As noted above, masonry samples collected during the 2010 and 2011 Phase II ESA included paint that was later confirmed to contain PCBs. Paint was removed prior to collecting masonry samples during the 2020 SSI.
- Bulk solid samples were collected of suspected materials following an inventory of building material types. Care was taken to sample only the suspected material rather than to incorporate substrate (masonry or wood). Where possible, suspected material samples were collected in triplicate.

  - Caulk was physically removed from between the doors and adjoining masonry using hand tools and placed directly into sample containers.
  - Glazing was physically removed from windows using hand tools and placed directly into sample containers.
  - Paint was physically removed from wall surfaces using hand tools and placed directly into sample containers. Dust and grime were removed from painted surfaces using a d-limonene based cleaner prior to sample collection. Given this sampling methodology, concentrations of PCBs in paint are assumed to be representative of their concentration as a bulk product rather than from contamination via dust or sprayed oils.
- Soil samples were collected from exterior areas and below the former Plant #4 building slab to assess potential impacts to exterior areas and to determine whether PCBs have diffused through the slab. Discrete and composite soil samples were collected during the 2010 and 2011 Phase II ESA and discrete soil samples were collected during the 2020 SSI.
  - Composite exterior surface soil samples were collected in accordance with Stone SOP *SEI-5.75.0 Procedure for Collection of Composite Soil Samples*.
  - Discrete soil samples were collected in accordance with Stone SOP *SEI-5.58.2 Collection, Handling, and Preservation of Discrete Soil Samples*.
- Wipe samples were collected from non-porous media, including the gantry crane and a metal door. Wipe samples were also collected from painted surfaces to evaluate if dust and grime contains PCBs. All wipe samples were collected as standard wipe tests as defined in 40 CFR §761.123 and in accordance with Stone SOP SEI-5.99.0 *Procedure for Wipe Sample Collection to Assess PCB Concentrations on Material Surfaces*.

All samples, including quality control samples (field duplicates and equipment blanks) were preserved in ice-filled coolers and transported under chain-of-custody procedures to AMRO (2010 – 2011) or Phoenix (2020 – 2021 and 2023), where the samples were extracted using manual Soxhlet extraction (EPA Method 3540C) prior to analysis by EPA Method 8082.

2. Conceptual Site Model

The following Conceptual Site Model (CSM) provides a set of working hypotheses that describe key aspects of the Site. The CSM includes a discussion of the physical, geologic, and hydraulic attributes of the Site and surrounding area, how chemicals were released at the Site, their transport pathways, fate mechanisms, and potential routes of exposure to ecological and human receptors. The CSM provides the context from which the site investigation is developed and a framework to make sound Site management decisions.

2.1. Geology and Hydrogeology

Native soils at the Site consist of pebbly sands associated with a glacial deltaic environment. Soil borings performed during the completion of Stone's Phase II ESA indicated that much of the shallow soil at the Site is comprised of fill. Refuse consistent with coal ash, demolition debris, and iron smelting activities was observed in soil throughout the Site. Soil borings performed during monitoring well installations indicate that this fill may extend to depths greater than 10 feet in the eastern portion of the Site, and generally thinning to the west. It is likely that the Site saw extensive infilling prior to its initial development circa 1900.

Gray phyllite and schist bedrock is exposed in the Black River channel adjacent to the western portion of the Site, consistent with the map units described by Dole et al. (1970). Refusals encountered during the direct push drilling program may be attributed to the presence of bedrock, or large cobbles that marked a former river channel below the Site. Hybrid auger and down-hole air hammer drilling performed during the Supplemental Phase II ESA was successful in installing monitoring wells in shallow bedrock.

The depth to groundwater in the overburden aquifer ranges from about 9.5 feet bgs in the southern portion of the Site (GW-5) to over 15 feet bgs in the northern portion of the Site (at GW-3 and GW-7). The groundwater potentiometric surface derived from hydraulic head data collected by Stone from overburden monitoring wells GW-3, GW-5, and GW-7, indicates that groundwater within the unconfined overburden aquifer in the eastern portion of the Site flows to the north- northeast with a hydraulic gradient of about 0.03 feet/feet. No overburden aquifer was observed in the western portion of the Site.

Based on hydraulic head data from the bedrock monitoring wells, groundwater flow within the shallow fractured bedrock aquifer is generally to the north. As the head elevations were higher than the bedrock interface, there appears to be an upward flow component in the shallow fractured-bedrock aquifer.

2.2. Contaminant Distribution, Fate, and Transport

2.2.1. Groundwater

PCBs were not detected in groundwater samples collected from Site monitoring wells during the Supplemental Phase II ESA. No pathways have been identified that may have resulted in PCB groundwater contamination.

Total lead, total chromium, total nickel, total arsenic, benzo(a)pyrene, and benzene have been detected at concentrations above the respective VGES in groundwater samples collected at the Site. However, the current risk of exposure to human and ecological receptors is low because groundwater from the Site is not used as a potable water supply. In addition, contaminants detected within Black River sediment at concentrations exceeding their respective TEC and/or PEC were not consistent with the contaminants observed in groundwater.

During the August 2011 monitoring event, exceedances of the VGES for total metals were detected in MW-14 (chromium, lead, and nickel), GW-3 (chromium, lead, nickel, and arsenic), and GW-5 (lead). No dissolved metals were detected above the laboratory detection limits in filtered samples collected from GW-3 and MW-14 in August 2011. In addition, laboratory analyses of unfiltered groundwater samples collected from overburden monitoring wells GW-3, GW-5, and GW-7 in July 2010 documented total metals concentrations below the VGES. The August 2011 VGES exceedances in MW-14 and GW-3 may therefore be attributed to the relatively high turbidity of the samples (23.8 NTU and 160 NTU, respectively). The total lead concentration detected in GW-5 (15.2 μg/L) slightly exceeded the VGES of 15.0 micrograms per liter (μg/L) and does not appear to be attributed to elevated sample turbidity. With available data, it is unclear whether total lead detections in GW-5 are naturally occurring (i.e., “background”) or attributable to an off-Site anthropogenic source, such as releases of leaded gasoline from a nearby filling station and former bulk fuel storage.

Benzene was detected at a concentration of 75 μg/L (above the VGES of 5.0 μg/L) in shallow bedrock monitoring well MW-14, located along Clinton Street/Route 11 in the southern portion of the Site. The source of this contamination is currently unknown. However, available Sanborn maps reviewed during the Phase I ESA depicted a gasoline service station with four USTs approximately 200 feet to the west of the Site, at 113 Clinton Street. Stone was unable to locate records indicating these USTs were removed. Manning’s City Directories reviewed during the Phase I ESA indicate that this property was operated under several business names between 1942 and 1969, including Gene’s Super Service Station, Park Garage, Art’s Gelso Station and Springfield Garage, Inc. Although no release at this historical gasoline station was identified in the available records reviewed, any petroleum released to groundwater at this potentially upgradient property would likely migrate to and could potentially impact the quality of groundwater at the Site.

The lateral and vertical distribution of the benzene plume within the fractured bedrock aquifer, and the hydraulic relationship between the bedrock and overburden aquifer (in the eastern portion of the Site), are not well understood. However, no VOCs have been detected in the overburden monitoring wells in the eastern portion of the Site or within sediment pore water (using passive diffusion bags) along the Black River adjacent to the Site, suggesting that the benzene plume is not significantly impacting these media in this portion of the Site. However, it is possible that volatilization of benzene from the shallow fractured bedrock aquifer in the vicinity of MW-14 (where there is no overburden aquifer present), at the air-water interface within steeply dipping fractures, if present, may contribute to the elevated concentrations of benzene detected in soil gas beneath the Plant #4 building.

Low-level (below VGES) contamination by petroleum VOCs (ethylbenzene, toluene, trimethylbenzene and xylenes) is also present in the bedrock aquifer in the western portion of the Site (MW-11). Although compositionally different than the contamination observed in the eastern portion of the Site, the historic gasoline station located at 113 Clinton Street may be a possible source for the observed groundwater contamination at MW-11.

PAHs were detected in groundwater samples collected from overburden monitoring well GW-3 (July 2010 and August 2011), with benzo(a)pyrene detected at concentrations in excess of the VGES during both monitoring events. PAH contamination in groundwater may be attributed to the past use of the Site as a foundry or the presence of urban fill material primarily comprised of foundry waste. The lateral extent of benzo(a)pyrene in excess of the VGES is not well defined and may extend north to the Black River and off-Site to the east. No monitoring of surface water quality with respect to PAH has been completed to date in the Black River adjacent to the Site. However, given benzo(a)pyrene's relatively low solubility under natural conditions, the low concentration of benzo(a)pyrene in groundwater, the presumed contaminant flux, and resulting dilution in the river, the impact to surface water quality from groundwater containing PAHs is likely minimal.

2.2.2. Soil

Soil contamination, including PAHs and PCBs, is present at concentrations greater than the VSS for residential properties in shallow soil. In the area northeast of the EMHRC, PCB and, PAHs are present in soils extending to at least 3.5 feet bgs at concentrations in excess of VSS for residential properties. Foundry fill in this area is present to approximately 10 feet bgs suggesting that the fill material is the likely source of this contamination. Fill appears to be thicker in the eastern portion of the Site along the embankment of the Black River. Low-lying areas, including the riverbank have seen substantial infilling.

Surface and shallow soil west of the EMHRC building formerly contained widespread PAH contamination in excess of non-resident VSS; PCB contamination in this area was formerly limited in extent and present at relatively low concentrations. In accordance with Stone's *Partial CAP*, soils in this area were managed through remedial action in 2014.

Surface and shallow soil within the exterior portion of the Site between the EMHRC and former Plant #4 building still contain PAH contamination in excess of the resident VSS but below the Vermont urban background concentration. PCB contamination in these areas appears to be limited in extent, observed in two closely spaced samples (SB107-2.0 and SB19), and present at relatively low concentrations (below 1 mg/Kg). Specific point-source releases of PAHs and PCBs have not been identified in exterior areas of the Site. The distributed nature of these contaminants may be attributed to a history of extensive earthwork at the Site including the demolition of prior structures, installation of subsurface utilities, and construction of the EMHRC building. Any or all of these activities may have contributed to the placement and/or reworking of contaminated fill material around the Site. We expect the planned construction of the Phase II project will encounter these mildly contaminated soils and that appropriate soil management will be required, as described in Section 3.11 of this CAP.

PCBs were detected in one sub-slab soil sample (SL-114-19) co-located with an area of elevated PCBs in the concrete slab (MS-152), indicating that PCBs may have diffused through the slab at this location. PCBs may also have been detected in sub-slab soil at this location due to the introduction of concrete core drill cutting fluid. No preferential pathways, such as cracks or penetrations I the slab were identified. At this location, PCB concentrations exceeds the TSCA threshold for high occupancy sites with no protective cap (1.0 mg/Kg) but is below the TSCA threshold for the same setting if a protective cap is in place (10 mg/Kg). No PCBs were detected in a sub-slab soil sample co-located with an area of elevated PCBs in the concrete slab at location MS-127.

2.2.3. Soil Gas

During the initial Phase II ESA in 2010, soil gas assessment indicated that sub-slab and exterior shallow soil gas contained elevated concentrations of various VOCs. Two compounds were detected in excess of the US EPA OSWER screening values: 1,3-butadiene (four locations, two below the Plant #4 foundry building slab and two exterior locations in the western portion of the Site) and benzene (four locations below the Plant #4 foundry slab). Benzene was detected above the OSWER screening value, for sub slab locations, of 3.1 micrograms per cubic meter ($\mu g/m^3$) with concentrations ranging from 4.7 to 9.8 $\mu g/m^3$ in soil gas. Benzene concentrations are below the current Vermont Vapor Intrusion Standards (VIS) for non-resident sub-slab soil gas (35 μg/m^3) but above the resident VIS (4.3 μg/m^3). There is no current VIS for 1,3-butadiene.

According to the EPA National Center for Environmental Assessment (2002), 1,3-butadiene is a gas at standard temperature and pressure that is used commercially in the production of styrene-butadiene rubber, plastics, and thermoplastic resins. Its major environmental source is the incomplete combustion of fuels from mobile sources (e.g., automotive exhaust).

Benzene is a prominent constituent in gasoline and is potentially related to dissolved-phase contamination observed in the shallow bedrock aquifer in the eastern portion of the Site.

Indoor air contamination within the former Plant #4 building has not been assessed. No VOC were detected in soil gas at concentrations exceeding either regulatory criterion in samples collected from locations adjacent to the EMHRC building or within the footprint of the proposed Phase II construction.

2.2.4. Sediments

Black River sediments contain elevated concentrations of several Site contaminants including metals, PAH, and, in one sample, PCBs above the VT DEC SQG TEC. In addition, the reported concentrations of copper and several PAHs exceeded the PEC in one sample collected during the 2010 initial Phase II ESA. Based on the distribution and types of contaminants observed in Site soils, it is possible that some of the observed metals and PAH contamination of river sediments is related to deposition of contaminated soil from stormwater runoff originating on the Site. Since PCBs were only detected in one sample at 0.17 mg/Kg, PCB contamination along the riverbank does not appear to be widespread.

Per the VT DEC SQG, "if one or more contaminants exceed PECs, additional site assessment is likely. In some cases where exceedances are extreme, biological impairment may be assumed with high confidence." As only one sample contained concentrations in excess of the PEC and based on correspondence with VT DEC Watershed Management Division and Sites Management Section, no further assessment of sediment quality was completed.

The assessment of groundwater discharge to the river indicates that groundwater transport is not likely a continuing source of the sediment contamination in the river. Transport of contaminated sediments from unknown sources upstream of the Site may also be occurring.

2.2.5. Building Materials

PCB-contaminated building materials found within the former Plant #4 building indicate that PCB-contaminated oils were in use at the Site. Distribution of PCB contamination on the building slab originally indicated that the source of PCBs was from contaminated machine cutting oil or coolant; however, results of wipe sampling of the overhead crane within the building suggests that lubrication oils within the crane are a source as well. Table 2, below, provides a summary of PCB concentrations in bulk material samples.

Contaminated surfaces within the former Plant #4 building include the entire concrete slab, a wood in-lay within the concrete slab that surrounds machine base P12 and P15 located within the annex, steel rails of the building's Gantry crane, the Gantry crane itself, and a steel barn door separating the annex from the large bay. Stored materials within the building are presumed to by contaminated by PCBs. Wipe samples of wall surfaces indicates that dust and oil residue covering much of the former Plant #4's interior surfaces contain PCBs.

Bulk building materials, including paint, doorframe caulk, and window glazing all contain PCBs, indicating that PCBs were used as plasticizers in these materials. Paint has been detected in several locations at concentrations that require removal as a PCB bulk product waste (PCB concentrations ≥ 50 mg/kg). These locations include cream colored paint on a metal door between the main Plant #4 and annex, white paint overlying cream-colored paint on both the eastern and western annex walls, cream colored paint overlying a green paint on a door between the northern portion of the Plant #4 building and annex, a door on the southern end of Plant #4, and cream-colored paint on the northern Plant #4 wall.

Based on relatively low concentrations of PCBs in masonry underlying painted surfaces, diffusion of PCBs from the paint to the masonry has been limited. PCB concentrations of masonry samples collected in 2010 and 2011 were likely biased high by the inclusion of paint in those samples. Likewise, diffusion of PCBs from caulk surrounding doorways into adjoining masonry has not resulted in contamination of the masonry that requires remediation. Ceiling paint was not sampled but appears to be the same cream-colored paint as on walls and is also likely PCB contaminated.

Table 2: Bulk Product Summary

Product Description	Color	Approximate Quantity	Total PCB Concentrations (mg/Kg)	Usage	Substrate	Location	Condition
Paint	Off-white/cream	1,125 ft^2	9.8 - 1,200	Wall	Masonry	Northern machine room	Poor
	Cream	240 ft^2	53 - 55	Door	Metal	Metal door between machine room and annex	Poor
	Cream	24,625 ft^2	7.3 - 47	Walls and ceiling	Masonry (walls) structural steel, and wood (roof deck)	Machine room eastern, western, and southern walls metal structural supports, and roof deck	Poor
	Gray	540 ft^2	1.6 - 29	Walls	Masonry	Northern portion of Annex on western and northern walls	Poor
	Cream underlying off-white	2,060 ft^2	22 - 50	Walls	Masonry	Lower approximate 10 feet of eastern and southern annex walls and southern machine room wall	Poor
	Cream overlying green	50 ft^2	47	Door	Wood	Northwest between machine room and annex	Poor
	Cream	3,010 ft^2	Not Tested	Ceiling	Metal roof decking	Annex	Poor
Caulk	White	20 linear feet	0.15	Door	Masonry	Western annex door	Poor
Caulk	White	40 linear feet	Not detected	Door	Masonry	Eastern machine room door	Poor
Caulk/ Glazing	Clear – Brown	1,000 linear feet	4.1	Windows	Masonry	Western annex wall	Poor
Caulk	White	500 linear feet	1.1	Windows	Masonry	Eastern wall windows	Poor
Caulk	White	40 linear feet	1.7	Door	Masonry	Southern machine room door	Poor

Elevated concentrations in concrete observed along the western approximate 2/3 of the former main manufacturing area are likely the result of cutting oils spilled on the slab during typical machine operation. Machine bases are primarily located on the western half of the former machine floor. PCB concentrations are below 10 mg/Kg in the eastern approximate 1/3 and southern extent of the former manufacturing area.

PCB contaminated gear and lubricating oils may also have leaked from the gantry crane as it traversed the machine room. The highest PCB concentrations in the concrete slab occur in the northwest area of the former machine floor next to a machine base and below the gantry crane gear box, which has been observed to leak.

Transport of PCBs was likely facilitated by foot and wheel traffic across the slab, however, based on the low number of detections and low concentrations in exterior soils; it does not appear that PCBs were transported to exterior areas in large quantities.

Based on the cumulative results from Site assessments conducted to date, approximately 5,875 ft^2 of the slab contain PCBs at concentrations equal to or greater than the 10 mg/Kg TSCA threshold for porous media. Of this area, approximately 1,475 ft^2 has PCBs at concentrations greater than the 50 mg/Kg threshold which requires that the material be disposed of as regulated hazardous waste if removed from the building. Depth discrete samples collected below surface hot spots indicates that PCB contamination has penetrated several inches into the concrete slab. These locations include the northwest corner of Plant #4 (MS-141 and MS-152) and near machine base P6 (MS-127). PCBs were detected above 1.0 mg/Kg in four depth-discrete concrete samples collected from depths below the slab surface ranging from three to nine inches and below 1 mg/Kg at MS-127 collected from thirteen inches below the slab surface. PCBs were detected at 12 mg/Kg in the concrete sample collected from nine-inches below the slab surface at MS-152 and at 6.2 mg/Kg in the sub-slab soil sample collected at this location. Sub-slab soils at this location may be due to diffusion of PCBs through the slab, leaks through the slab, or introduction of contaminated cutting fluids during sample collection. PCBs were not detected in sub-slab soil collected from MS-127.

Based on our current understanding of the degree of PCB contamination within the former Plant #4 building, continued use of the former Plant #4 building by Site personnel should not occur without taking steps to prevent direct contact to contaminated surfaces. Similarly, the building should not be open to the general public. Materials stored within the building will likely need to be disposed in the same manner as the impacted concrete slab on which they reside or properly decontaminated.

2.3. Sensitive Receptor Evaluation

Table 3, below, provides a summary of potential sensitive receptors and the relevant exposure pathway to known Site contaminants in Site media of interest.

Table 3: Sensitive Receptor Evaluation

Potentially Affected Media	Potential Pathways	Potential Sensitive Receptors	Potential Level of Risk
Surface Water	Discharge of groundwater plume to the Black River. Overland flow of stormwater runoff.	Recreational users, aquatic biota	Low – Based on the Phase II ESA results, groundwater contamination does not appear to present a high risk to surface water.
Groundwater	Dissolved phase VOCs and other Site contaminants of concern migrating in groundwater	Downgradient receptors, the Black River, Site users	Low – Based on the Phase II ESA results, groundwater contamination does not appear to present a high risk to surface water. There are no known groundwater users.

Potentially Affected Media	Potential Pathways	Potential Sensitive Receptors	Potential Level of Risk
Subsurface Soil	Direct contact to subsurface soils from future disturbances for Site improvements.	Construction workers, Site users,	Current: Low – Based on the Phase II ESA results surface soil contamination is not widespread in exterior areas of the Site. Future: High – planned redevelopment will disturb PCB and PAH contaminated soil.
Indoor Air	Impact to indoor air from intrusion of CVOC contaminated soil gas. Breathing zone impacts for future disturbances for Site improvements and excavation during construction activities.	Building occupants Construction workers	Low – benzene is present below limited areas of the former Plant #4 slab at concentrations > resident VIS but < non-resident VIS. Based on attenuation across the slab, low-level benzene soil gas concentrations are not expected to impact indoor air.
	Impact to indoor air from unmitigated PCBs in the concrete slab and building materials		High – Elevated PCB concentrations in the concrete slab and paint could serve as a long-term source of PCBs to indoor air through volatilization under current Site conditions.

Using the Vermont Agency of Natural Resources (ANR) Natural Resources Atlas, a qualitative receptor analysis was completed to evaluate the occurrence of potential receptors relative to the Site.

2.3.1. Drinking Water Supplies

There are two private drinking water supply wells within 0.25 miles of the Site. All drinking water sources are located cross / upgradient of the Site, or due to their relative position within the watershed are not at risk of contamination from off-Site migration. No public water supply wells are mapped within 0.25 miles of the Site.

2.3.2. Surface Water and Groundwater Source Protection Areas

No surface water or groundwater source protection areas (SPA) are mapped within 0.25 miles of the Site.

2.3.3. Buildings with Basements

The EMHRC has a basement on the north side of the building that houses a mechanical room. A basement is located below the northern end of the former Plant #4 building and is vacant. Information concerning nearby residential properties is not readily available, but it is likely nearby residential structures possess basements.

2.3.4. Wetlands

No wetlands were identified within 0.25 miles of the Site.

2.3.5. Sensitive Ecological Areas

No sensitive ecological areas, including uncommon species, significant natural communities, VT Fish and Wildlife managed lands, Indiana Bat hibernacula, deer wintering yards, or habitat blocks were identified within 0.25 mile of the Site.

2.3.6. Rare, Threatened, and Endangered Species

No rare, threatened, or endangered species were identified within 0.25 miles of the Site.

2.3.7. Adjoining Property Owners

Adjoining property owners, as identified using the State of Vermont Open Geodata Portal, are summarized in Table 4, below, and depicted on Figure 2.

Table 4: Adjoining Property Owner Information

Property Address	Direction	Owner	Contact Information
77 Hartness Ave Springfield Fire Station	North	Town of Springfield	Steve Neratko, Town Manager; 96 Main Street Springfield, Vermont 05156 (802) 885-2104
14 Ridgeway Street Residential	South	Duane English	172 Kevadus Circle Chester, VT 05143
113 Clinton Street Boccaccio's Hair Salon	West	John S. & Lori J. Brown	13 Overlook Drive Springfield, VT 05156 (802) 885-6265
129 Clinton Street Shanghai Garden Restaurant	West	Chun Qing Zhang	129 Clinton Street Springfield, VT 05156 (802) 885-5555
131 Clinton Street Vacant	West	Lazaros and Semela Xanthopoulos.	553 Washington Street Keene, NH 03431
4 Furnace Street Vacant	West	Chad and Amanda Dupuis	4 Furnace Street Springfield, VT 05156 Not Listed
10 Ridgeway Street Residential	South	Todd Clark	161 Valley Brook Drive Westminister VT 05159
160 Clinton Street Former Jones and Lamson Plant #1 Vacant	East	Springfield Regional Development Corporation	14 Clinton Street Suite 7 Springfield, Vermont 05156 (802) 885-3061
86 Clinton Street Commercial	West	Green Mountain Power	2154 Post Road Rutland, VT 05701-6200 (888) 835-4672

3. Corrective Action Plan/Risk-Based Cleanup Plan

This section describes the recommended design elements for PCB contaminated building materials removal, non-porous surface decontamination, and soil management. Corrective actions will be performed by contractors under the supervision of a Qualified Environmental professional (QEP). This cleanup plan has been prepared as a CAP in accordance with the Vermont Investigation and Remediation of Contaminated Properties Rule (IRule) and a RBCP in accordance with 40 CFR §761.61(c). Disturbance of PCB contaminated concrete or PAH/PCB contaminated soil shall not commence until approval of this CAP/RBCP by the VT DEC and EPA.

The Plant #4 building should be assessed for asbestos containing material (ACM) and lead. Any ACM identified should be abated in accordance with Vermont Regulations for Asbestos Control prior to remedial actions. Removal of paint from interior building surfaces assumes that all paints contain lead.

3.1. Performance Standards

Corrective action objectives described within this CAP/RBCP are designed to mitigate exposure to the following known Site contaminants and exposure pathways:

1. Prevent direct contact with PCB contaminated building materials,
2. Prevent direct contact with PAH and PCB contaminated soil,
3. Prevent vapor intrusion of benzene into the Plant #4 building following renovations, and
4. Monitor groundwater quality at the downgradient property boundary.

To satisfy TSCA requirements, this document has been prepared as a RBCP in accordance with 40 CFR §761.61(c) for review and approval by the EPA Region I PCB Coordinator.

3.1.1. Relevant Regulatory Criteria – PCBs

PCBs are regulated by the EPA under 40 CFR § 761, under the authority of TSCA. PCBs present within the concrete floor and non-porous surfaces (the gantry crane) are PCB remediation wastes that require cleanup in accordance with TSCA regulations for the following reasons:

- PCBs are present at levels above 1.0 mg/Kg in porous materials and above 10 $\mu g/100\ cm^2$ on non-porous surfaces,
- PCBs are presumed to have been released from a source or sources with unknown PCB concentrations, and
- Oil leaks from the gantry crane have resulted in releases of PCB contaminated oil after 1978.

PCBs are ubiquitous in paint throughout the Plant #4 building interior. Some paint contains PCBs at concentrations ≥ 50 mg/kg, requiring removal and disposal as a PCB bulk product waste in accordance with 40 CFR §761.62(b)(i). These locations include cream colored paint on a metal door between the main Plant

#4 and annex, white paint overlying cream-colored paint on both the eastern and western annex walls, cream colored paint overlying a green paint on a door between the northern portion of the Plant #4 building and annex, a door on the southern end of Plant #4, and cream-colored paint on the western portion of the northern Plant #4 wall. Paint removed from these areas may be segregated from paint removed from the balance of the building for disposal as separate waste streams.

PCB analytical results from previous environmental investigations were compared to the following regulatory criteria:

- Concrete and Wood: TSCA cleanup levels regulated by the United States Environmental protection Agency (EPA) under 40 CFR §761. Section 761.61(a) of the CFR outlines the following cleanup levels of porous media at PCB contaminated sites:
  - High Occupancy, no cap: less than or equal to (≤) 1.0 mg/kg
  - High Occupancy, with cap: greater than (>) 1.0 mg/kg, but ≤ 10 mg/kg
  - Low Occupancy, no cap: ≤ 25 mg/kg
  - Low Occupancy, no cap, with signage indicating the presence of PCBs: > 25 mg/kg, but ≤ 50 mg/kg.
  - Low Occupancy, with cap: > 25 mg/kg, but ≤ 100 mg/kg
- Wipe Samples: TSCA cleanup levels for non-porous surfaces include:
  - ≤ 10 μg/100 cm^2 for high occupancy use
  - ≤ 100 μg/100 cm^2 for low occupancy use
- Paint and Caulk: PCB bulk product threshold of ≥ 50 mg/Kg.
- Soil – PCBs:
  - TSCA cleanup levels as described above for concrete and wood.
  - VSS for residential (0.114 mg/Kg) and non-residential sites (0.68 mg/Kg) including in Appendix A - §35-APX-A1 of the VT DEC's Investigation and Remediation of Contaminated Properties Rule (IRule).
- Soil – PAHs: VSS for residential (0.07 mg/Kg), urban background (0.580 mg/Kg), and non-residential sites (1.54 mg/Kg) expressed as benzo(a)pyrene toxicity equivalence (B[a]P-TEQ) for seven carcinogenic PAHs including in Appendix A - §35-APX-A1 of the (IRule).

The VSS serves as the cleanup goal and basis for management of soils. Contaminant concentrations in soil that will be disturbed following demolition of the annex and during Phase II construction include:

- PAHs above the resident VSS (0.007 mg/kg) but below the VT urban background level (0.580 mg/kg).
- PCBs at concentrations above the non-resident VSS (0.68 mg/kg) but below high occupancy TSCA cleanup levels.

Non-PCB contaminated soil generated from exterior excavations can be managed as development soils in accordance with §35-805 of the IRule. In the absence of any permitted categorical solid waste facilities permitted to receive development soils or receiving sites established in accordance with §35-805(d) of the IRule, PAH contaminated soil that cannot remain on-Site will be disposed of at a solid waste facility as alternate daily cover. Since PCB concentrations are below TSCA thresholds, these soils can be managed on-Site with a barrier (e.g., under the future building slab) or disposed off-Site at a solid waste landfill as alternate daily cover with landfill and VT DEC Solid Waste approval. The following barrier specifications are required by the IRule:

a) A minimum of 18-inches thick, if not covered by an impervious surface; or

b) If covered by an impervious surface, 6-inches of fill or sub-base material under the impervious surface.

c) Alternate cap thicknesses may be utilized if additional institutional controls are placed on the property to ensure protection of human health and the environment, and pre-approval is granted by the Agency of Natural Resources Secretary.

Cleanup verification sampling will be required within former Plant #4 building following the removal of overlying PCB-contaminated concrete. Sub-slab soil management may be required pending cleanup verification sample results. At a minimum, one foot of soil will be excavated across an approximately 70 square foot area (7 feet by 10 feet) centered around soil sample SL-114-19 and placed in the basement for on-Site disposal.

3.1.2. Vermont Groundwater Enforcement Standards

Several contaminants of concern have been detected at concentrations exceeding VGES, including total lead, total chromium, total nickel, total arsenic, benzo(a)pyrene, and benzene. Based on the absence of a risk to sensitive receptors, including drinking water, surface water, sediment, and indoor air, all Site groundwater monitoring wells except GW-3 should be closed in accordance with the Vermont Water Supply Rule. PAH concentrations exceeding VGES in GW-3 are likely due to elevated turbidity in samples collected in 2010 and 2011. A filtered and unfiltered groundwater sample will be collected from GW-3 and analyzed for PAHs by EPA Method 8270 with select ion monitoring (SIM). Results will be evaluated to determine if long-term groundwater monitoring is required or whether GW-3 can be abandoned. A long-term groundwater monitoring plan will be prepared as an amendment to this CAP, if necessary.

Groundwater samples will be submitted to Eurofins Laboratory of South Burlington, Vermont (Eurofins) for their respective analyses.

3.1.3. Vermont Vapor Intrusion Standards

Soil gas samples from the 2010 and 2011 Phase II ESA assessments were compared to resident and non-resident sub-slab soil gas Vapor Intrusion Standards (VIS) included in Appendix § 35-APX-A2 of the IRule. The resident sub-slab VIS for benzene is 4.3 $\mu g/m^3$. The maximum sub-slab soil gas benzene concentration detected on-Site was 6.4 $\mu g/m^3$ (SG9).

3.1.4. Corrective Action Objectives

Based on future unrestricted high occupancy use of the former Plant #4 building, corrective actions must achieve the following corrective action objectives:

1. Remove all PCB remediation wastes at concentrations ≥ 1.0 mg/kg., with the exception of the Plant #4 basement. Materials containing PCBs at concentrations less than 50 mg/Kg can be disposed of at a Subtitle D landfill. Materials containing PCBs at concentrations ≥ 50 mg/Kg require disposal at a landfill permitted to accept hazardous waste in accordance with 40 CFR §761.75.

2. Non-porous surfaces, including the gantry crane, gantry crane steel rails, and metal sliding "barn" door require decontamination following procedures described in 40 CFR §761 Subpart P to remove PCBs at concentrations >10 $\mu g/100\ cm^2$.

3. Removal and disposal, in accordance with 40 CFR §761.62, of all PCB products (e.g., paint) from the former Plant #4 building.
4. Management of PAH and PCB contaminated soil for both on-Site and off-Site disposal. Engineered barriers will be constructed in accordance with specifications provided in the IRule for PAH and PCB contaminated soils disposed of on-Site.
5. Closure of existing groundwater monitoring wells in accordance with the Vermont Water Supply Rule. Long-term groundwater monitoring will be implemented if previous groundwater results cannot be attributed to elevated sample turbidity.
6. Mitigation of vapor intrusion through the installation of vapor barriers below the Phase II construction building slab and Plant #4 slab.

3.1.5. Permitting

Stone anticipates that building permits from the Town of Springfield will be required for the corrective action. Approved special waste profiles will be required for disposal facilities. A discharge permit (i.e., NPDES) will be required for discharging treated concrete cutting fluids to the municipal sanitary sewer. A traffic control plan will be required to manage the increased amount of truck traffic that will be entering and leaving the Site during cleanup activities.

3.2. Redevelopment and Reuse Plan

The current site redevelopment plan for the Site is provided as Figures 4 and 5 and described in Section 1.3 of this CAP/RBCP.

3.3. Basis of Design and Remedial Construction Plan

The basis of design to eliminate the potential for human contact with PCB-contaminated building materials includes:

1. Demolition of the annex and management of building materials,
2. Removal of all PCB bulk products,
3. Removal of the entire concrete slab and machine base concrete with ≥ 1.0 mg/Kg PCBs, and
4. On-Site disposal of PAH and PCB contaminated soil.

The basis of design to reduce the potential for human contact with PAH and PCB-contaminated soil is on-Site management of all soil below constructed engineered barriers.

3.4. Erosion Control Measures

Installation of silt fencing at the edge of the disturbed soil area will be required to prevent erosion and migration of sediment into the Black River, catch basins, and other sensitive areas.

Dust management activities will be performed by the Site contractor and will include wetting of surfaces with water during earthwork and of building materials of the annex during demolition. Calcium chloride may be added to assist in caking of soils and preventing the need for excessive watering.

3.5. Annex Demolition

The western and northern annex walls and roof will be demolished with all materials disposed of as PCB bulk product. PCB contamination within brick walls was detected at concentrations <50 mg/Kg. Brick debris will be live loaded into trucks or placed in roll-offs, both of which will be lined with 10-mil or greater polyethylene sheeting. Brick debris will be transported to an approved landfill in accordance with 40 CFR §761.62(b). The wooden door with green paint that contains PCBs at a concentration of 47 mg/Kg will be disposed with brick debris.

Following removal of annex walls and roof, the concrete slab will be removed as described in Section 3.8, below. Dust monitoring will be performed during the annex demolition in the same manner as described below for paint removal.

Cleanup verification samples will be collected on a 20-foot spacing around the perimeter of the Annex and from soils in the footprint of the removed slab (Figure 13). Thirteen soil samples will be collected as grabs using hand tooling in accordance with Stone SOPs. Samples will be submitted to Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, Connecticut for analysis of PCBs by EPA Method 8082 with manual Soxhlet extraction. Table 5, below, provides a summary of proposed cleanup verification and quality control samples.

If results from samples collected below the Annex slab or exterior contain PCBs above Site action limits, further samples will be collected to define the limits of the exceedance. Soil found to be greater than the action limit will be managed according to its concentration.

3.6. Paint Removal and Disposal

Paint will be removed from the entirety of former Plant #4 interior surfaces of walls and ceiling of the main room and from the southern and eastern annex walls following annex demolition and prior to removal of the concrete slab to prevent potential contamination of new building materials. Paint will be removed by media blasting. Air filtration and polyethylene sheeting over orifices will be used to establish a negative pressure within the building to prevent fugitive dust from contaminating areas outside of the building. It is assumed that paint is lead-based and will be removed in accordance with the Vermont Lead Law.

The contractor selected to perform paint removal will determine the type of blast material(s) most suitable for paint removal from various surfaces. The contractor shall conduct paint abatement work under their own Health and Safety Plan and in compliance with Vermont Occupational Safety and Health regulations. At a minimum, the Contractor shall provide personnel completing paint abatement with disposable protective whole-body clothing (e.g., Tyvek suits), head coverings, foot coverings, and gloves suitable to prevent PCB skin contact. Eye and respiratory protection shall be provided and made available for all personnel entering any work area. The Contractor shall determine the appropriate eye protection equipment required for the equipment and methods used for paint abatement. Respiratory protection shall, at a minimum, include National Institute for Occupational Safety and Health (NIOSH) approved P100 particulate filtering facepiece respirators.

Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

Structural steel, including roof trusses, should be primed for painting soon after completion of paint removal activities to avoid additional future surface preparation costs. Final painting of structural steel is outside of the scope of the CAP/RBCP.

Table 5, below, provides a summary of proposed cleanup verification and quality control samples.

3.6.1. Work Area Preparation

The following work area preparation steps will be taken to prevent the spread of PCB bulk products from the former Plant #4 building and prevent unauthorized access to the work area:

1. All materials stored in the former Plant #4 building will be removed prior to decontamination of non-porous materials and media blasting (see Section 3.6.1.1).
    a. Fluorescent light ballasts will be removed and disposed of as PCB articles during the preparation of the building for corrective actions.
2. PCB caution signs shall be posted at all approaches to the work area.
3. Access to areas of work shall be regulated to prevent unauthorized visitors.
4. The contractor shall establish a decontamination area adjacent to the work area for decontamination of all personnel and equipment. The area shall be covered by an impermeable drop cloth on the floor or horizontal working surface. The room or area must be of sufficient size to accommodate cleaning of equipment and removing personal protective equipment. Disposable work clothing must be contained in contractor garbage bags prior to removal from the decontamination area. All equipment and surfaces of waste containers must be cleaned prior to removing them from the decontamination room or area. All personnel must enter and exit the PCB work area through the decontamination area(s).
5. All building penetrations and work area openings must be sealed with a minimum 6 mil plastic sheeting or equipped with fans that establish a negative pressure and are equipped with high-efficiency particulate absorbing (HEPA) filters. A negative pressure must be maintained within the building during the entirety of paint removal activities.

Gantry crane steel rails, the crane body, and the steel sliding door will be wiped with a d-limonene-based solvent and sorbent pads to remove oily grime prior to sandblasting to prevent spreading of PCB-contaminated lubricating oils. Oily rags will be contained in a cubic yard box for disposal as PCB remediation waste.

3.6.1.1. Stored Material Management

Supplemental Site Investigation demonstrated that stored materials sampled to date do not contain PCB contamination above applicable thresholds. Further analysis will be performed of items that are in direct contact with the slab. Prior to mobilization for removal of the materials, Stone will visit the Site to collect additional wipe samples of materials in direct contact with the slab or in the path of the crane. For the purpose of this plan, we assume up to 50 additional samples will be collected in accordance with Stone SOPs; field duplicates and matrix spike/matrix spike duplicate sets will be collected at a frequency of 5% each. Materials that are positioned on pallets or otherwise not in direct contact with the slab and not in the path of the crane will be removed for disposal, reuse, or recycling. Sample methodology will vary based on the type of material; porous materials will be sampled using a bulk material sample (e.g., wood or plastic shavings) while nonporous materials will be wipe sampled. Representation of stored materials by a given sample will be reported and be spatially representative of the material. Samples will be submitted for analysis of PCBs by EPA Method 8082 with manual Soxhlet extraction.

Once materials have been assessed for PCBs, Stone will categorize the waste according to its needed waste stream.

- Non-porous material found to contain PCBs less than 10 $\mu g/100\ cm^2$ will be managed as solid waste or recycled.

- Non-porous materials found to contain PCBs greater than 10 µg/100 cm^2 will be decontaminated or managed as PCB remediation waste.
- Porous materials found to have detectable PCBs above 1 ppm but less than 50 ppm will be managed as PCB remediation wastes.
- Porous materials containing greater than 50 ppm PCBs will be managed as ≥50 PCB remediation waste.
- Porous materials found to contain less than 1 ppm will be managed as solid waste or recycled.
- Small detritus and difficult to sample media (e.g., polyethylene sheeting) will be managed as >50 ppm PCB remediation waste.

Stone will document the inventory and proposed waste management practice to EPA and VT DEC via email prior to shipping materials from the Site.

3.6.2. Dust Monitoring

Perimeter dust monitoring will be conducted during paint removal to assess potential impacts during remedial actions and determine if corrective actions are needed. Three, real-time particulate air monitors (e.g., TSI Dust Trak 8532 or equivalent) equipped with an omni-directional air intake device and a PM10 impactor head will be used at the Site to monitor dust levels at the Site boundaries. Two monitors will be deployed downwind of the work area; one monitor will be deployed upwind to assess ambient background conditions. Real-time PM10 concentrations will be collected continuously during normal working hours. Data will be monitored by Stone in real-time using telemetry and recorded digitally. Work will cease and dust control measures evaluated for improvements if downwind monitors have dust readings 10% higher than upwind dust monitors for 10 continuous minutes.

Real-time dust monitoring may not be conducted during inclement weather conditions, including heavy rain or fog, as these conditions interfere with the functionality of the instrument and may cause damage. Precipitation will reduce the potential for fugitive dust generation, so work may proceed under these conditions, even if monitors cannot be operated. During these periods of operation, visual observations will be used to determine if dust emissions are being generated that require corrective actions.

Wind speed and direction, precipitation, and temperature data will be downloaded from the Hartness State Airport in North Springfield.

3.6.3. Equipment and Work Area Decontamination

All tools and equipment within the work area shall be decontaminated before removal from the work area. Following removal of PCB bulk product materials and containment material, the work area shall be decontaminated by vacuuming (with a HEPA filter), wet wiping/mopping and a repeated vacuuming (with a HEPA filter) of the entire work area. All surfaces in and around the work area must be free of dust generated during the work. The QEP will visually inspect the work area for dust to determine if additional decontamination is required.

Cleanup verification methodologies are presented in Section 3.6.5. If necessary, decontamination steps and wipe sampling will be repeated for the entire work area until PCBs are not detected in any of the wipe samples.

Equipment, such as skid steers, lifts, or hand tools, will be decontaminated in accordance with 40 CFR §761.79. Verification wipes will be collected from decontaminated equipment before they are allowed to leave the Site. We assume 10 samples will be collected to document equipment decontamination however the actual number of samples to be collected will be determined in the field.

3.6.4. PCB Paint Disposal

All paint and blasting media shall be transported for off-Site disposal in a solid waste landfill in accordance with 40 CFR §761.62(b). All PCB bulk product waste generated shall be removed from the Site within ten (10) calendar days after successful completion of all PCB bulk product abatement work. A waste characteristics sample will be collected for lead and PCB analyses to determine if a hazardous waste code is needed.

The QEP will apply for a temporary EPA generator identification number and sign all waste manifests on behalf of EMHRC. PCB bulk product will be transported under a hazardous waste manifest using the EPA identification number for disposal at a solid waste landfill permitted to accept PCB bulk product and lead wastes. Manifests shall be signed by the disposal facility operator to certify receipt of PCB bulk product materials covered by the manifest. Copies of all waste disposal manifests and certificates of disposal will be retained by EMHRC and the QEP.

Solid PCB bulk product abatement derived wastes, such as personal protective equipment (PPE), rags, and polyethylene sheeting will be disposed of as a PCB bulk product with paint and blasting media. Liquid PCB bulk product abatement derived wastes will include tool and equipment decontamination liquids and will be contained in 55-gallon drums and disposed off-Site at a facility approved for PCB disposal in accordance with 40 CFR §761.60.

All waste containers shall be fully enclosed and lockable (i.e., enclosed dumpster, cubic yard box, 55-gallon drum, etc.) and shall be labeled with PCB Warning Labels in accordance with 40 CFR §761.

3.6.5. Paint Verification Sampling

Following removal of paint, Stone will perform cleanup verification sampling to assess whether the remaining substrate is to be considered a PCB bulk remediation waste. Cleanup verification will be performed using a presence/absence determination along a 20-foot grid applied to the walls and ceiling. A total of 114 samples will be collected for confirmation analyses following paint removal (Figure 13; Table 5). Further actions may be necessary pending the results of the confirmation sampling and analysis (see Section 3.6.6).

Samples will be submitted to Phoenix for PCB analysis by EPA Method 8082 with manual Soxhlet extraction.

3.6.6. Paint Removal Contingency

If post paint removal verification sampling indicates the presence of PCBs in the underlying substrate, further steps will be taken to mitigate or remove PCB impacted materials. The method used to mitigate the exceedance will vary based on the substrate but may include:

- Additional sampling to better define the extent of the exceedance
- Removal of the substrate as PCB remediation waste.
- Additional decontamination of the substrate in accordance with 40 CFR §761.79
- Resampling following decontamination or removal of PCB remediation waste
- Painting the surface with two coats of contrasting color epoxy paint.

Contingent remedial tasks will be pre-communicated with VT DEC and US EPA TSCA.

3.7. Non-Porous Surface Decontamination

The gantry crane, crane steel rails, and the sliding metal door located between the Plant #4 machine room and annex will be decontaminated following the double wash/rinse procedure described in 40 CFR §761 Subpart S. Prior to decontamination, minimum 6-mil polyethylene sheeting will be placed below work areas to contain decontamination liquids. Crane oil reservoirs will also be drained into DOT-approved containers prior to decontamination. Wire will be removed from the wire spool and disposed of as PCB remediation waste at US Ecology's landfill in Wayne, Michigan along with concrete (see Section 3.8). The wire spool will be decontaminated for recycling as described below.

Non-porous surfaces at the Site are coated with dust and grime. The first wash will include covering all non-porous surfaces with a 100% d-limonene solvent. Each square foot of rough and smooth surfaces shall be scrubbed with a brush or wiped with an absorbent pad, respectively, for at least one minute, adding solvent as needed to ensure the surface remains wet. Absorbent pads shall be used to mop up absorbent until the surface appears dry. The first rinse shall consist of rinsing the wash solution with at least 1-gallon of water, which is then wiped with an absorbent pad until the surface appears dry. This process shall be repeated for the second wash and rinse cycles except there is no minimum volume of water required for the rinse.

Soiled absorbent pads/scrubbers, polyethylene sheeting, and PPE will be placed in DOT-approved containers for disposal as PCB remediation waste. Wash and rinse liquids will be contained for disposal as PCB remediation wastes.

Following decontamination, Stone will collect standard hexane wipe samples to confirm PCBs are no longer present at concentrations of 10 μg/100 cm^2 or greater (see Figure 11). Wipe samples will be collected of porous surfaces (i.e., metal stairs, gantry crane, gantry crane rails, and sliding metal door) for each 1 square meter from within 100 cm^2 areas using laboratory prepared hexane wipes. One wipe sample will be collected from each square meter of the gantry crane in accordance with 40 CFR §761 Subpart P for a total of 44 wipes from the crane stringers and associated appurtenances (e.g., reservoirs, railings, etc.).

Crane rails, measuring 160 feet long by 6 inches tall by 2 inches wide represent 373.34 square feet or 34.68 square meters. Stone proposes a deviation from 40 CFR §761 Subpart P verification sample density: ten wipe samples will be collected from each gantry crane rail (20 samples total). This deviation is justified due to the size of each rail and the common release mechanism. If a subset of verification samples are found to contain 10 μg/100 cm^2 or greater, Stone will perform additional verification samples to bracket the area that will require further decontamination.

Eighteen samples will be collected from the sliding steel door.

The sliding metal door separating the main foundry room from the annex measures approximately 10 feet wide by 10 feet tall (3 meters by 3 meters). A total of 9 wipe samples will be collected from each side of the door after decontamination.

Field duplicates will be collected at five percent frequency of all samples to be collected (Table 5). One matrix spike/matrix spike duplicate sample set will be collected for every 20 field samples. Wipe samples will be submitted to Phoenix for PCB analysis by EPA Method 8082 with manual Soxhlet extraction.

Gantry crane oil reservoirs will be treated as PCB hydraulic equipment per §761.60(b)(3)(ii). The reservoirs will be removed from the crane and any additional free flowing liquid will be drained for disposal in accordance with §761.60(A)(2). Once drained, the reservoir will be flushed with kerosene. The kerosene will be disposed of in accordance with §761.79(g). Hoses containing hydraulic oil will be disposed of as PCB remediation waste.

Any found capacitors or small, potentially PCB-containing appliance will be managed as a PCB article in accordance with 40 CFR §761.60(b).

Further decontamination and subsequent confirmation sampling will be required if PCBs are reported in wipe samples at concentrations greater than 10 μg/100 cm^2.

SMCS is currently evaluating options for the gantry crane following decontamination. These include moving it against the northern wall and leaving it in place, removing and selling it, or removing and recycling it as scrap metal. If left in place, decontaminated crane surfaces should be encapsulated with polyethylene sheeting to prevent contamination during subsequent remedial activities.

3.8. Concrete Slab and Interior Soil Removal & Disposal

PCB contamination in exceedance of 1.0 mg/Kg is widespread throughout the former Plant #4 building and annex concrete slab, totaling approximately 19,915 ft^2. Approximately 1,475 ft^2 of the slab has PCBs at concentrations >50 mg/Kg (Figure 12) requiring disposal as a hazardous waste at US Ecology's hazardous waste landfill in Wayne, Michigan (US Ecology), which is a permitted PCB disposal facility in accordance with 40 CFR §761.75. The demolition of these areas of the slab is expected to generate 91 tons of hazardous PCB remediation waste. For acceptance at US Ecology, concrete must not exceed three feet in any dimension and all protruding rebar must be removed. Removal of the remaining 18,540 ft^2 of PCB-contaminated slab will generate approximately 1,140 tons of PCB remediation waste, which will be disposed of at a Subtitle D landfill permitted to receive PCB remediation waste (e.g., Casella's Waste USA in Coventry, Vermont or Waste Management's Turnkey landfill in Rochester, New Hampshire). For acceptance at either landfill, concrete must not exceed two feet in any direction and all protruding rebar must be removed. These weight totals assume that the slab is an average of 10-inches thick, except for 2,560 ft^2 of machine bases that could be up to six feet thick. Slab cutting and machine base grinding procedures are described in the following subsections.

Metal stairs located in the Annex will be decontaminated in accordance with 40 CFR §761 Subpart S. Confirmation samples will be collected from the stair treads (2) and handrail (1) and be submitted to Phoenix for analysis by EPA Method 8082 with manual Soxhlet extraction. Once successfully decontaminated, the stairs will be removed for salvage or recycling.

3.8.1. Concrete Cutting Procedures

Prior to cutting activities, a work area and exclusion zone shall be established to prevent the spread of PCB-contamination from work areas. For the main former Plant #4 building, 6-mil polyethylene sheeting will be secured to the lower ten-feet of wall. For the annex, work areas will be enveloped by polyethylene walls and ceiling taped to staging or other framework. An exclusion zone consisting of polyethylene sheeting laid on the ground outside of the work area shall be used by personnel cutting concrete to don, remove, and contain protective coveralls and decontamination equipment. No equipment shall leave the exclusion zone without being decontaminated. If equipment enters the exclusion zone it shall be considered contaminated.

Wet saws shall be used to minimize the amount of dust generated by slab removal. Concrete cutting shall be performed by enough staff such that work can be performed safely and cuttings and wet-saw water can be contained using a dedicated wet/dry vacuum. Liquids generated during concrete cutting shall be contained in Department of Transportation approved 55-gallon drums.

Concrete cuts will by spaced on a 2-foot by 2-foot grid. Cut depth will initially be set to 9-inches to prevent introduction of cutting liquids to the sub-slab area. Cutting depths may be adjusted as necessary based on variations in slab thickness across the building.

Machine bases are expected to be up to six feet thick and will require closely spaced cuts to enable removal of the upper 6-inches of concrete. Excavators equipped with a pneumatic pin and bucket with thumb will be used to break and remove the slab. Concrete will be segregated according to PCB concentrations and disposal facility.

Concrete cutting above the 1,600 ft^2 basement will begin in the northeast corner at the current opening that provides access to the basement. Care shall be taken to make partial cuts through the slab that can be removed using an excavator. Structural staging will be used to support the portion of the slab above the basement to prevent uncontrolled collapse. The basement shall be lined with 10-mil reinforced polyethylene sheeting to contain and allow removal of any concrete or cutting liquids released to the basement.

Following completion of concrete cutting, equipment shall be decontaminated within a tray located in the exclusion zone by a phosphate-free detergent scrub, followed by rinsing with potable water, and cleaned with a d-limonene solvent. Decontamination liquids will be transferred to a 55-gallon drum and sampled for PCB analysis by EPA Method 8082 for waste disposal characterization. Polyethylene used to encapsulate the work zones, disposable personal protective equipment, and solid decontamination equipment will be disposed of as PCB remediation wastes along with concrete.

3.8.1.1. Sub-slab Soil Cleanup Verification Sampling

Following removal of the concrete slab (including the main building and annex), cleanup verification samples will be collected from sub-slab soil on an approximate 20-foot sample grid; a tighter spacing (10-foot) will be applied to the portion of the sub slab soils that is below the gantry crane area (Figure 13). Based on this arrangement, 78 discrete soil samples will be collected of soil. No samples are proposed below the basement slab that will remain following the completion of the at-grade slab removal. Cleanup verification soil samples will be collected using a core sampler in accordance with 40 CFR §761.286.

Field duplicates and matrix spike/matrix spike duplicates (MS/MSD) will be collected at a 5% frequency (1 in 20) for quality assurance purposes. Field duplicates will be collected from soil beneath areas of highest PCB concentrations in concrete, including but not limited to MS-152, MS-141, and MS-127 (Figure 6). Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples will be collected from areas where PCB concentrations in the concrete slab are low, such as MS12 and MS9 (Figure 6). Field duplicate and MS/MSD samples will be collected by filling additional sample jars.

Soil, concrete, and quality control samples will be submitted to Phoenix for analysis of PCB Aroclors by EPA Method 8082 following manual Soxhlet extraction by EPA Method 3540C. Table 5 , below, provides a summary of proposed cleanup verification and quality control samples.

Sampling devices will be decontaminated between component sample locations using a phosphate-free detergent scrub, isopropyl alcohol rinse, and clean water triple rinse. At least one equipment blank will be collected for each day cleanup verification sampling is conducted by wiping decontaminated sampling equipment surfaces with a laboratory-provided hexane wipe. Equipment blanks will be submitted to a NELAP-accredited laboratory for analysis of PCB Aroclors by EPA Method 8082 following manual Soxhlet extraction by EPA Method 3540C.

3.8.1.1.1. Contingent Additional Soil Cleanup and Verification Sampling

If total PCBs are detected in soil cleanup verification samples at concentrations ≥ 1.0 mg/Kg, the following contingent activities will be performed:

- Grid spacing between verification results may be tightened with additional sampling and analysis, pending the results of adjacent samples.

- Soil will be excavated in 1/2-foot lifts in the locations corresponding to the results in exceedance and disposed of off-Site at an appropriate disposal facility based on total PCB concentrations.

Following excavation, cleanup verification sampling will be repeated in the same manner as described above except the grid origin will be moved 5-feet towards magnetic north.

3.8.2. Machine Bases

Machine bases are expected to be up to six feet thick and will require either grinding, wire cutting, or demolition with an excavator equipped with a pneumatic pin to remove the upper 6-inches of concrete. Grinding, wire cutting, or demolition shall be completed under wetting conditions and liquids contained using a wet drum vacuum as described above.

3.8.2.1. Concrete Cleanup Verification Sampling

Concrete cleanup verification samples will be collected from machine bases following removal of the upper six inches of concrete, as described above. Two to six concrete samples will be collected from each machine base in accordance with Stone SOP *SEI-5-64.0: Procedure for Sampling Porous Surfaces for PCB Analysis* (Appendix C*)*. Figure 13 provides a depiction of proposed verification sample locations.

Concrete samples will be collected from the upper ½-inch of the concrete surface using a hammer drill to advance multiple adjacent holes to pulverize concrete. Concrete samples will be placed directly into sample containers using disposable and dedicated plastic spoons.

We anticipate collecting 41 concrete cleanup verification samples (Table 5). Field duplicates and MS/MSD samples will be collected at a 5% frequency. One standard hexane wipe sample will be collected from the hammer drill bit every day that concrete sampling is conducted. All samples will be submitted to a NELAP-accredited laboratory for analysis of PCB Aroclors by EPA Method 8082 following manual Soxhlet extraction by EPA Method 3540C.

An additional six inches of concrete will be removed, and cleanup verification sampling repeated if PCBs are detected in cleanup verification samples at concentrations ≥ 1 mg/kg.

3.8.3. Targeted Interior Soil Removal

A 10-foot by 10-foot section of sub-slab soil, surrounding SL-114-19, will be removed to 1 foot below the depth of the bottom of the slab. Refer to Figure 12 for a depiction of the extent of the excavation. Soil generated from this excavation will be placed as fill within the basement cavity.

3.8.3.1. Soil Cleanup Verification Sampling

Following removal of the soil at SL-114-19, cleanup verification samples will be collected from the base of the excavation. One sample will be collected from each 5-foot by 5-foot section of the excavation floor creating four samples. One sample will be collected from each excavation wall, creating four samples. One field duplicate sample and one matrix spike/matrix spike duplicate sample set will be collected.

Confirmation samples will be transported under chain of custody protocols for analysis by EPA Method 8082 with manual Soxhlet extraction. Table 5 provides a summary of verification samples and quality control samples.

3.9. Concrete Installation

Following the successful removal of the concrete slab and verification sampling and analysis, the sub slab grade will be prepared for installation of a new slab (See Section 3.14). The Site basement will be infilled with soil derived from cut soils from the future construction of the connecting building between the Foundry and Edgar May pool building. Soils will be installed in 1-foot lifts and compacted. The subgrade elevation across the slab will be brought up to 0.5 feet below the top of the proposed floor elevation using clean imported fill. The vapor barrier, see Section 3.10, will be installed above subgrade soils. Rebar (3/4"/#6) will be installed in a 1-foot grid. Concrete will be installed to a uniform elevation to match existing interior grades.

3.10. Vapor Barriers

Vapor barriers shall be installed prior to replacement of the Plant #4 concrete slab and construction of the Phase II construction slab. Vapor barriers shall be constructed of minimum 15-mil polyethylene sheeting (Stego® Wrap or equivalent). Where more than one piece of vapor barrier is required, sheets shall overlap by a minimum of one-foot and be sealed with a vapor barrier tape (Stego® Tape or equivalent). Vapor barriers shall be sealed to the foundation using a construction adhesive. Perforations in the vapor barrier for installation around pipes, foundation piers, etc. shall be sealed using vapor barrier tape and/or a construction caulk, as appropriate.

3.11. Indoor Air Sampling

Indoor air samples will be collected at least two weeks following the completion of all PCB remedial activities. Four indoor air samples will be collected from the main portion of the building and will be distributed spatially in the large open space. One air sample will be collected from the southwest portion of the building in the portion of the annex to remain (Figure 13). Quality control samples will include one field duplicate, one field blank, and one outdoor ambient air sample.

All air samples will be collected in accordance with Stone Standard Operating Procedure (SOP) *5.100: Determination of Polychlorinated Biphenyls in Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling*, which can be provided upon request. Laboratory provided PUF cartridges will be secured to continuous flow sample pumps calibrated to approximately 4.5 liters per minute flow rate and sample over a 24-hour period. Based on this flow rate, laboratory reporting limits will be 10 ng/m^3 or less. All air sample swill be submitted to Eurofins Laboratory of South Burlington, Vermont (Eurofins) for PCB analysis as Aroclors by EPA Method TO-10A.

3.12. Waste Disposal

3.12.1. Cutting/Grinding Liquid Treatment

Liquids generated during concrete removal will be contained on-Site in 55-gallon drums and transferred to a polyethylene-lined roll-off container. A weir will be placed in the roll-off and one end elevated on wood blocks to allow separation of liquids and concrete slurry. Liquids will be treated on-Site using particulate filtration and liquid phase granular activated carbon (GAC). A liquid sample will be collected from concrete cutting fluids and analyzed for PCBs by EPA Method 8082 to calculate the GAC loading rate and estimate the required GAC change-out schedule, if necessary.

The water treatment system will be constructed of two filter housing containing 50-micron and 5-micron filters followed by two, 55-gallon drums in series, each containing 200 pounds of liquid GAC (Figure 14). Effluent will initially be discharged to a 250-gallon tote and a sample collected for PCB analysis by EPA Method 8082. Laboratory reporting limits will be less than the VGES for total PCBs (0.5 µg/l). Following receipt of a treated water sample with concentrations less than 0.5 µg/l, treated liquids will be discharged to the municipal sanitary sewer. Flow rate of the GAC treatment system will not exceed 10 gallons per minute to allow sufficient residence time within the GAC drums for removal of PCBs.

Upon completion of the treatment, GAC drums, filter bags, and associated plumbing will be managed as PCB remediation wastes. Due to the absorptive nature of GAC and difficulty in accurately sampling this media, these drums will be disposed of as a hazardous PCB remediation waste assuming a concentration of PCBs greater than 50 mg/Kg.

Concrete slurry will be disposed of as PCB remediation waste. Empty 55-gallon drums previously used to store concrete removal liquids will be crushed and disposed of as PCB remediation waste with the concrete slurry.

3.12.2. PCB Liquids Disposal

Decontamination rinsate and liquids containing d-limonene based cleaners or other solvents will be contained in 55-gallon drums and transported off-Site for disposal as PCB liquids in accordance with 40 CFR §761.60(a).

3.12.3. Bulk PCB Remediation Waste Disposal

Concrete removed from the former Plant #4 slab will be stockpiled until enough waste has accumulated to load trucks or roll-off containers and transported to the disposal facilities in accordance with 40 CFR §761.61(a)(5)(i). For concrete containing PCBs at concentrations > 50 mg/Kg, the disposal facility will be US Ecology's landfill in Wayne, Michigan, which is an approved PCB disposal facility in accordance with 40 CFR §761.75. For concrete containing PCBs at concentrations < 50 mg/Kg, the disposal facility will be a Subtitle D landfill permitted to receive PCB remediation waste, such as the Waste USA Landfill in Coventry, Vermont.

3.12.4. PCB Cleanup Wastes

All disposable solids (e.g., cleaning rags, disposable personal protective equipment, polyethylene sheeting, and sorbent pads) generated during the PCB cleanup and disposal activities will be placed in DOT-approved containers and transported to the landfill from which the corresponding bulk PCB remediation waste was generated.

3.13. Quality Assurance/Quality Control Plan

A summary pf proposed cleanup verification and quality control samples is summarized in Table 5, below. Field duplicates will be collected at a 5% frequency (1 in 20) for all media. MS/MSD samples will be collected at a 5% frequency for soil, concrete, and wipe samples collected to evaluate PCB cleanup of the concrete slab, machine bases, and non-porous surfaces, respectively.

Samples collected for waste characterization, as needed by proposed disposal facilities will not have associated field quality control samples.

Groundwater samples will include a field duplicate sample and trip blank.

Table 5: Proposed Cleanup Verification and Quality Control Samples

Description	Media	Number of Samples	Grid Spacing (ft)	Quality Control Samples	Analysis	Total Samples	Minimum Laboratory Reporting Limit	Action Limit (Total PCBs)
Stored Materials	Non-porous	25	NA	2 FD 2 MS/MSD	8082 w/3540C	29	0.50 µg/100 cm^2	10 µg/100 cm^2
Stored Materials	Porous	25	NA	2 FD 2 MS/MSD	8082 w/3540C	29	0.10 mg/kg	1.0 mg/kg
Concrete Slab Removal	Soil	Annex: 7 Main: 75	20/10	5 FD 5 MS/MSD	8082 w/3540C	90	0.10 mg/kg	1.0 mg/kg
Interior Soil	Soil	8	5	1 FD 1 MS/MSD	8082 w/3540C	10	0.10 mg/Kg	1.0 mg/Kg
Exterior Soil	Soil	7	20	1 FD 1 MS/MSD	8082 w/3540C	9	0.10 mg/kg	1.0 mg/kg
Machine base Removal	Concrete	41	2 – 6 per base	3 FD 3 MS/MSD	8082 w/3540C	47	0.50 mg/kg	1.0 mg/kg
Non-Porous Surface Decontamination	Wipe	Crane: 44 Crane Rails: 20 Sliding Door: 18	1 meter	5 FD 5 MS/MSD	8082 w/3540C	108	0.50 µg/100 cm^2	10 µg/100 cm^2
Indoor Air	Air	5	NA	1 FD 1 FB 1 AA	TO-10	8	10 ng/m^3	22.5 ng/m^3
Paint Removal Confirmation	Wipe	110	20	5 FD 5 MS/MSD	8082 w/3540C	120	0.50 µg/100 cm^2	10 µg/100 cm^2
Equipment Decontamination	Wipe	10	NA	FD at 5% frequency	8082 w/3540C	11	0.50 µg/100 cm^2	10 µg/100 cm^2
Sampling Equipment Blanks	Wipe	TBD	NA	1 per day	8082 w/3540C	~20	0.50 µg/100 cm^2	10 µg/100 cm^2
Liquid – Pre-treatment	Water	1	NA	1 FD	8082	2	0.25 µg/l	NA – for GAC loading calculation
Liquid – Post-treatment	Water	1	NA	None	8082	2	0.25 µg/l	0.50 µg/l

Notes: TBD – number of samples to be determined; FD – field duplicate; MS/MSD – matrix spike/matrix spike duplicate; FB – field blank; AA – ambient air; mg/kg – milligrams per kilogram; µg/100 cm^2 – micrograms per one hundred square centimeters; ng/m^3 – nanograms per cubic meter; µg/l – micrograms per liter; NA – not applicable; GAC – granular activated carbon

3.14. Soil Management Plan

Exterior soils to be excavated during Phase II construction contain PAHs at concentrations exceeding resident VSS and PCBs at concentrations exceeding non-resident VSS, but below the TSCA high occupancy threshold of 1.0 mg/kg will require management. Stone estimates a total cut volume of 410 cubic yards (yd^3) based on the conceptual redevelopment plan (Figures 4 and 5) and the following assumptions:

1. Soil below the existing annex slab is suitable for a subbase of the new slab and will not require removal – this assumption will be verified through cleanup verification sampling, as presented in Section 3.8.
2. New frost walls and footings will require four foot wide by five-foot deep excavations and total seventy linear feet.
3. Walkways near the north and south entrances will require exaction of approximately 1,300 ft^2 to a depth of 18 inches.
4. Up to 250 linear feet of utility trenches excavated two feet wide by two feet deep will be required to install electrical, water, sewer, and other utilities.
5. Four column footings will each require 16-foot square excavations to a depth of five feet.
6. Tree wells will include two large (150 ft^2) and twenty-two small (17 ft^2) excavations to three feet below grade.
7. A 20% soil expansion factor was applied.

Excess soil from exterior excavations will be encapsulated on-Site within the former Plant #4 basement. Soil shall be installed and compacted in one-foot lifts. No soil containing PCBs above 1.0 mg/Kg will be used as backfill of the basement. The estimated volume of the basement is approximately 593 yd^3. An indicator fabric (Mirafi 140N or equivalent) will be placed over PAH and PCB contaminated soil placed in the basement prior to backfilling the remaining volume to the proposed slab base elevation with a certified clean engineered fill. The engineered fill specification will be determined by a civil engineer to be suitable for proposed Phase III construction of a field house. Engineered soils and the overlying concrete slab or alternative field house surface will serve as a barrier between PAH and PCB contaminated soils and Site users. Barrier thicknesses will, at a minimum, meet IRule requirements specified in Section 3.1

3.15. Groundwater Sampling and Monitoring Well Abandonment

Groundwater will be collected from monitoring well GW-3 using low flow methods in accordance with Stone SOPs. Historically, GW-3 has had high turbidity. A filtered and unfiltered groundwater sample will be collected from GW-3 for analysis of PAHs by EPA Method 8270 with select ion monitoring (SIM), VOCs by EPA Method 8260, and Priority Pollutant Metals by EPA Method 6020/7472. One field duplicate sample will be collected. Samples will be transported under chain of custody to Eurofins New England for analysis. Results will be evaluated to determine if long-term groundwater monitoring is required or whether GW-3 can be abandoned. Findings from the sampling will be presented within the CACCR. A long-term groundwater monitoring plan will be prepared as an amendment to this CAP, if necessary.

Construction details for the eight existing groundwater monitoring wells are summarized in Table 6, below. Well locations are shown on Figure 15. Well closure shall be completed for monitoring wells GW-5, GW-7, and MW-11 through MW-15 by a Vermont licensed well driller under QEP supervision in accordance with the Vermont Water Supply Rule. Monitoring well GW-3 will be maintained for monitoring, as necessary based on results of low-flow sampling.

To abandon the wells, the driller will attempt to remove the PVC well materials using a drill rig hoist. Boreholes will be tremie grouted with a bentonite and Portland cement grout. If PVC well materials cannot be removed, the well cap should be removed from that base of the well materials and the borehole tremie grouted. Flush mount road boxes will be removed, and the surface repaired to match the surrounding ground surface: wells located in asphalt will be repaired with concrete; wells located in grass areas will be finished at the surface with topsoil and grass seed. Any displaced groundwater will be contained in a 55-gallon drum and sampled for RCRA 8 metals, PAHs, PCBs, and VOCs for waste disposal characterization.

Table 6: Monitoring Well Construction Details

Well ID	Depth to Bedrock (feet bgs)	Total Depth (feet bgs)	Screened Interval (feet bgs)
GW-3	Not Applicable	19.5	14.5 – 19.5
GW-5	Not Applicable	17.0	12.0 – 17.0
GW-7	Not Applicable	19.1	14.1 – 19.1
MW-11	10.0	34.9	19.9 – 34.9
MW-12	6.0	27.0	12.0 – 27.0
MW-12	7.25	38.9	23.9 – 38.9
MW-14	19.0	28.0	18.0 – 28.0
MW-15	11.0	36.5	21.5 – 36.5

3.16. Institutional Control

The Site will be eligible for a Certificate of Completion (COC) as an enrollee of the Vermont Brownfields Reuse and Environmental Liability Limitation Act (BRELLA) program. The COC will be drafted by the VT DEC and filed on the Property title in the Town of Springfield, Vermont land records by SMCS. The COC shall be filed with Town of Springfield, Vermont land records within ten days of receipt and proof of filing provided to VT DEC and EPA. The COC will describe the location of contamination remaining on Site, which will include PAHs and PCBs in soil at concentrations exceeding their respective VSS placed in the former Plant #4 basement and potentially PCBs in soil below the new Plant #4 concrete slab at concentrations < 1.0 mg/kg.

The COC shall require that the engineered barriers and vapor barriers be maintained in perpetuity and that the VT DEC be notified prior to any future renovations to the former Plant #4 building that would require penetrating the engineered or vapor barriers, and that such work will be performed under a health and safety plan prepared by personnel trained in accordance with the requirements of the OSHA HAZWOPER regulations (29 CFR §1910.120). Engineered barriers should be routinely inspected for degradation and any observed degradation, such as cracks, be promptly repaired.

3.17. Long-Term Monitoring and Operations and Maintenance

It is expected that the following operation and maintenance (O&M) activities will be required to maximize the useful life of the engineered barrier:

- Periodic inspection of the concrete and soil barrier for visual indications of physical damage, to evaluate its continued effectiveness as an engineered barrier,
- Prompt repair of any damage to the concrete and soil barrier noted during the periodic inspections, and regular maintenance, as necessary, to ensure the engineering controls and access restrictions continue to mitigate the exposure of Site users to underlying contaminated media.

Efforts should be made during repair activities to minimize disruption and exposure to contaminated soil. Any contaminated soil generated during repairs should be contained on Site and disposed of properly at an approved off-Site location.

3.18. Health and Safety

Due to the presence of contaminated soil and building materials at the Site, cleanup activities should be performed using appropriate health and safety precautions. Contractors selected for cleanup activities shall perform those services under the auspices of their own site-specific health and safety plan, to be developed for the project. The contractors must make their own determinations as to the appropriate level of health and safety protection required for each of the activities described in this CAP/RBCP.

3.19. Reporting

Following completion of cleanup activities, a Corrective Action Construction Completion Report will be prepared in accordance with §35-608 of the IRule and submitted to the VT DEC, Sites Management Section and EPA Region I PCB Coordinator. The completion report will include a description of Site activities including dates of work, field notes, figures, a discussion and tables of cleanup verification sample results, and recommendations for additional remedial activities, if necessary.

3.20. Schedule

A proposed project schedule is summarized in Table 7, below, and is based on the following assumptions:

1. Removal of the concrete slab will begin in late fall 2024 to avoid freezing conditions.
2. No additional remediation is required based on cleanup verification samples collected following paint removal, concrete removal, or non-porous surface decontamination.

Table 7: Proposed Schedule

Task	Duration	Anticipated Completion Date
Revised CAP/RBCP		
Regulatory Approval	2 weeks	August 23, 2024
Public Comment Period	30 days	Complete
NPDES and Building Permits	6 weeks	September 20, 2024
Procurement	6 weeks	September 20, 2024
Site Preparation	2 weeks	October 11, 2024
Annex Demolition	2 weeks	October 11, 2024
Paint Removal & Disposal	1 month	November 13, 2024
Non-Porous Surface Decontamination	1 week	November 13, 2024
Concrete Slab Removal	1 month	December 13, 2024
Soil Management	2 weeks	December 27, 2024
Low Flow Groundwater Sampling	1 day	November 1, 2024
Well Closure	1 day	December 1, 2024
Cleanup Report	1 month	January 30, 2025

3.21. Proposed Contractors

Contractors selected to perform cleanup activities will be procured under a competitive bid process. Potential contractors include, but are not limited to, the contractors summarized in Table 8, below.

Table 8: Proposed Contractors

Address	Contact	Title	Phone	Email
Paint Removal				
New England Sandblasting 221 Cranberry Highway Rochester, MA 02576	Donald Pelletier	Project Manager	774-320-0192	Dpelletier_nesp@aol.com
SCE Environmental 1380 Mt. Cobb Road Lake Ariel, PA 18436	Jake Jones	Senior Project Manager	570-290-4420	jjones@scenv.com
Vermont Protective Coatings 2598 Franklin Street Brandon, VT 05733	Kirk Thomas	Owner	802-247-3237	
Annex Demolition				
Casella Construction, Inc. 25 Industrial Lane Mendon, VT 05701	Kyle Cornell	Project Manager	802-861-7094	Kyle.cornell@casellainc.com
Engineers Construction, Inc. 98 Engineers Drive Williston, VT 05495	Joey Appleton	General Civil Division Manager	802-578-9813	jappleton@ecivt.com
Fabian Earth Moving 1409 Pleasant Street West Rutland, VT 05777	Ron Fabian	Owner	802-438-5040	ron@fabianearthmoving.com
Gurney Brothers Construction 19 Gurney Road North Springfield, VT 05150	Doug Gurney	Owner	802-886-2210	dug@vermontel.net
Naylor & Breen Builders 191 Alta Woods Brandon, VT 05733	John Eugair	Project Manager	802-247-6527	JEugair@naylorbreen.com
Non-Porous Surface Decontamination				
US Ecology 280 Commerce Street Williston, VT 05495	Kyle Cousino	Foreman	802-488-3904	kcousino@usecology.com
Absolute Spill Response 21 Metro Way, Suite 7 Barre, VT 05641	Mark Bickelman	Operations Manager	802-272-9570	mbickelman@absoluteespillresponse.com
Concrete Slab Removal				
Casella Construction, Inc. 25 Industrial Lane Mendon, VT 05701	Kyle Cornell	Project Manager	802-861-7094	Kyle.cornell@casellainc.com
Engineers Construction, Inc. 98 Engineers Drive Williston, VT 05495	Joey Appleton	General Civil Division Manager	802-578-9813	jappleton@ecivt.com
Crown Point Excavation, LLC 890 Chester Road Springfield, VT 05156	Shawn Pollard	Owner	802-291-4817	
Fabian Earth Moving 1409 Pleasant Street West Rutland, VT 05777	Ron Fabian	Owner	802-438-5040	ron@fabianearthmoving.com
Gurney Brothers Construction 19 Gurney Road North Springfield, VT 05150	Doug Gurney	Owner	802-886-2210	dug@vermontel.net
Naylor & Breen Builders 191 Alta Woods Brandon, VT 05733	John Eugair	Project Manager	802-247-6527	JEugair@naylorbreen.com

Transport, and Disposal of PCB remediation wastes < 50 mg/kg				
Casella Waste Systems 184 Small Road Barrington NH 03825	Scott Sampson	Landfill Sales & Marketing Manager	603-235-3597	Scott.Sampson@casella.com

Address	Contact	Title	Phone	Email
Waste Management 1550 Balmer Road Model City, NY 14107	Sean Irwin	Technical Service Representative	716-286-0230	Sirwin1@wm.com
US Ecology 280 Commerce Street Williston, VT 05495	Kyle Cousino	Foreman	802-488-3904	kcousino@usecology.com
Absolute Spill Response 21 Metro Way, Suite 7 Barre, VT 05641	Mark Bickelman	Operations Manager	802-272-9570	mbickelman@absoluteespillresponse.com
Transport, and Disposal of PCB remediation wastes > 50 mg/kg				
US Ecology 17440 College Parkway Suite 300 Livonia, MI 48152	Hugo DelRosso	Senior Account Executive (VT)	860-993-7518	hugo.delrosso@usecology.com
Well Closure				
Platform Drilling and Remediation Services 563 Big Basin Road North Fayston, VT 05660	Michael Jordan	Owner	802-498-3828	mjordan@platform-env.com
Cascade Drilling 1 Home Farm Way Montpelier, VT 05602	Casey Moore	Project Manager	908-246-5853	cmoore@cascade-env.com
Eastern Analytical, Inc. 25 Chenell Drive Concord, NH 03301	Jeff Gagne	Field Service Manager	603-410-3880	jeffg@easternanalytical.com
NELAP Accredited Laboratories				
Phoenix Environmental Laboratory 587 East Middle Turnpike Manchester, CT 06040	Bobbi Aloisa	Vice President/Director of Client Services	860-645-8728	bobbi@phoenixlabs.com
Eurofins Laboratory 646 Camp Ave. North Kingstown, RI 02852	Mara Ploch	Account Manager	401-352-6950	mara.ploch@et.eurofinsus.com
Pace Analytical 39 Spruce Street East Longmeadow, MA 01028	James Georgantas	Account Executive	413-525-2332	jgeorgantas@pacelabs.com

3.22. Cost

The estimated remedial costs are summarized in Table 9, below, and are based on professional experience and historical, recent contractor quotes, and recent inflationary related cost increases. A detailed cost estimate is provided as Appendix D.

Table 9: Estimated Cleanup Costs

Task	Professional Services	Consultant	Expenses	Total
Task 1 – Project Management, Procurement, Site Preparations and Permitting	$35,666.00	$98,084.80	$993.60	$134,744.40
Task 2 - Concrete Slab Removal > 50 ppm	$6,680.00	$243,699.50	$2,201.45	$252,580.95
Task 3 - Concrete Slab Removal < 50 ppm	$18,560.00	$772,827.00	$3,567.90	$794,954.90
Task 4 - Decontaminate Gantry Crane and Rails	$16,436.00	$105,025.80	$5,708.15	$127,169.95
Task 5 - Post-Slab Removal Confirmation Sampling	$12,790.00	$9,479.80	$2,514.65	$24,784.45
Task 6 - Annex Demolition	$18,000.00	$97,310.40	$7,484.10	$122,794.50

Task	Professional Services	Consultant	Expenses	Total
Task 7 – Paint Removal	$28,434.00	$379,733.20	$12,032.20	$420,199.40
Task 8 - Concrete Installation	$9,650.00	$612,884.53	$1,153.75	$623,688.28
Task 9 - Groundwater Sampling and Well Abandonment	$2,706.00	$6,414.65	$626.15	$9,746.80
Task 10 – CACCR	$13,280.00	$0.00	$400.00	$13,680.00
TOTAL				**$2,524,343.63**
TOTAL with 20% Contingency				**$3,029,212.35**

4. References

Code of Federal Regulations Title 40 – Protection of the Environment, Chapter I – Environmental Protection Agency, Subchapter R – Toxic Substance Control Act – Part 761 – Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.

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National Center for Environmental Assessment – Washington Office, October 2002. *Health Assessment of 1,3-Butadiene* (EPA/600/P-98/001F).

Stone Environmental, Inc. (Stone), August 2009, *Phase I Environmental Site Assessment Report, Edgar May Health and Recreation Center, 140 Clinton Street, Springfield, Vermont, SMS #2009-3906*.

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Stone, December 2011, *Supplemental Phase II Environmental Site Assessment Report, Edgar May Health and Recreation Center, Final Report, SMS #2009-3906, Springfield Vermont*.

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Stone, February 2016, *Corrective Action Plan, Edgar May Health and Recreation Center, SMS #2009-3906,140 Clinton Street, Springfield Vermont*.

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State of Vermont Agency of Natural Resources, Department of Environmental Conservation, Waste Management and Prevention Division, Environmental Protection Rules, Chapter 35, *Investigation and Remediation of Contaminated Properties Rule*, July 6, 2019.

Appendix A: Figures

LEGEND

🟥 Site Boundary

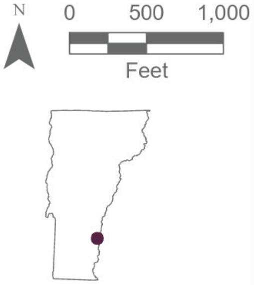


Figure 1: Location Map

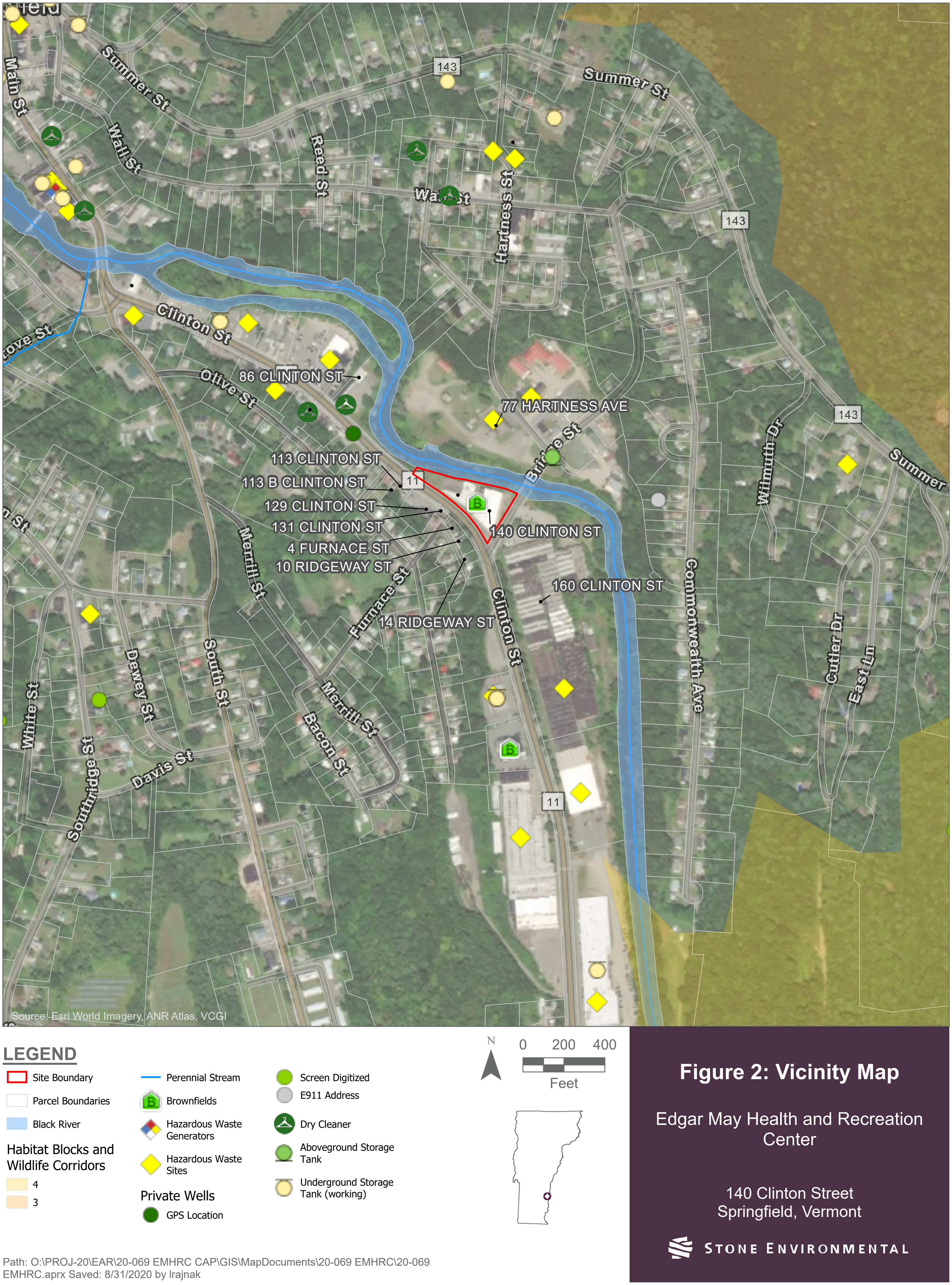
Edgar May Health and
Recreation Canter

140 Clinton Street
Springfield, Vermont

STONE ENVIRONMENTAL

Source: Esri World Imagery, VCGI

Path: O:\PROJ-20\EAR\20-069 EMHRC CAP\GIS\MapDocuments\20-069 EMHRC\20-069 EMHRC.aprx Saved: 11/13/2020 by lrajnak



Source: Esri World Imagery, ANR Atlas, VCGI

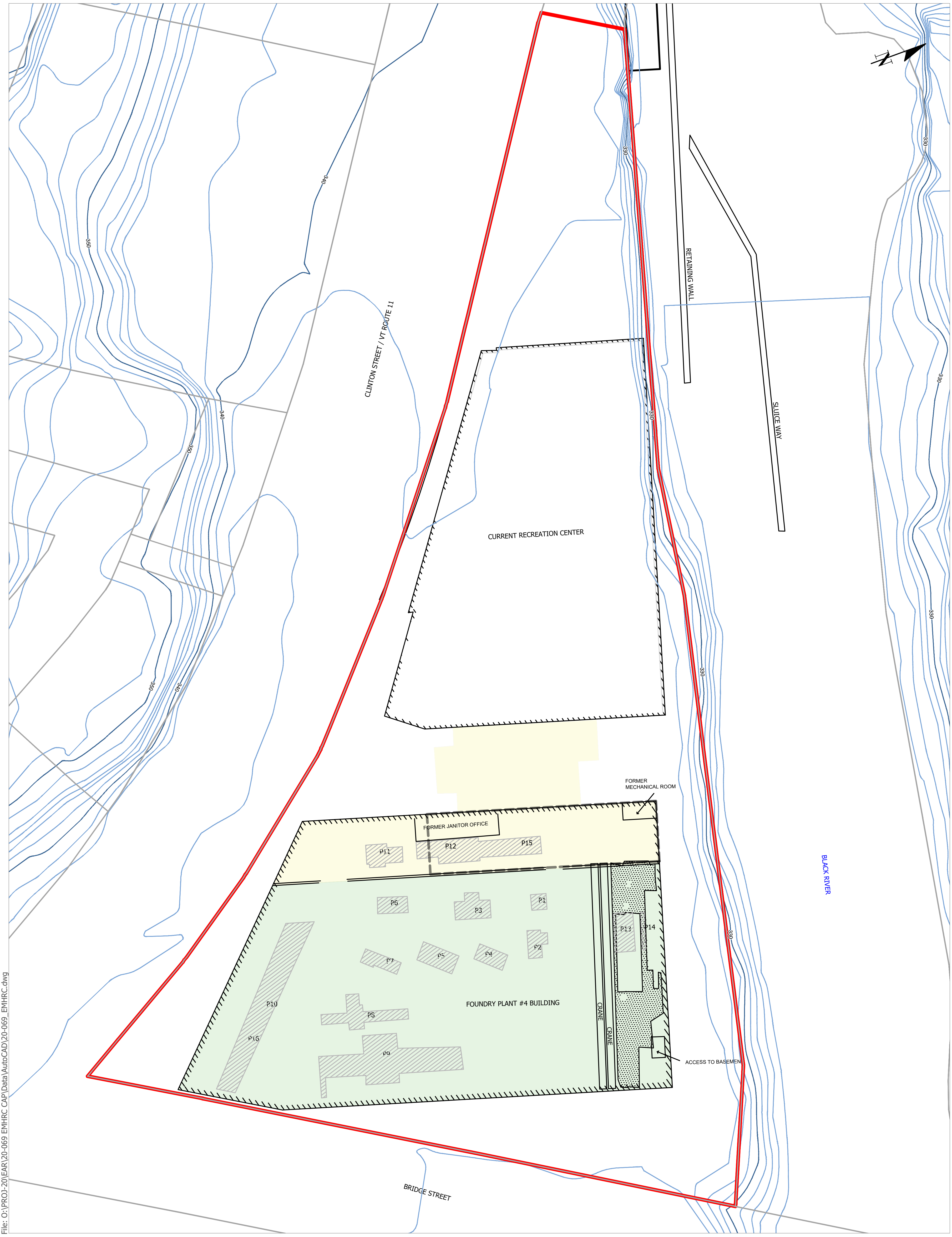
Figure 2: Vicinity Map

Edgar May Health and Recreation Center

140 Clinton Street
Springfield, Vermont

STONE ENVIRONMENTAL

Path: O:\PROJ-20\EAR\20-069 EMHRC CAP\GIS\MapDocuments\20-069 EMHRC\20-069 EMHRC.aprx Saved: 8/31/2020 by lrajnak



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LEGEND

🟥	SITE BOUNDARY	🟨	PHASE II DEVELOPMENT
☐	PARCEL BOUNDARY	🟩	PHASE III DEVELOPMENT
⬚	ANNEX	▨	MACHINE BASE
—	2' CONTOUR	▒	BASEMENT
		▨	BUILDING OUTLINE

NOTE:
BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

PARCEL BOUNDARY AND STATEWIDE 1' COUNTOURS - VCGI

DRAWING CREDITS
Drawn On: 8/28/2020
Drawn By: LBR
Checked On: 8/28/2020
Checked By: LJR
Project No.: 20-069

DRAWING SCALE
0 20 40 Feet

STONE ENVIRONMENTAL

SITE MAP
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET
SPRINGFIELD VERMONT

FIGURE NO.
3

Source: Site Plan, Edgar May Health and Recreation Center, Breadloaf, 03/12/18.

File: FILE: O:\PROJ-20\EAR\20-069 EMHRC CAP\Data\AutoCAD\20-069_EMHRC_110920.DWG

DRAWING CREDITS

Drawn On: 9/16/2021
Drawn By: LBR
Checked On: 9/20/2021
Checked By: LJR
Project No.: 20-069

REVISIONS

#	Date	Drwn	Chk'd	App'd	Description

DRAWING SCALE

0 20 40 Feet

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REDEVELOPMENT SITE PLAN
EDGAR MAY HEALTH AND RECREATION CENTER
140 CLINTON STREET

SPRINGFIELD VERMONT

FIGURE NO.
4

Source: Site Plan, Edgar May Health and Recreation Center, Breadloaf, 03/12/18.

File: O:\PROJ-20\EAR\20-069 EMHRC CAP\Data\AutoCAD\20-069_EMHRC_110920.DWG

DRAWING CREDITS

Drawn On: 9/16/2021
Drawn By: LBR
Checked On: 9/20/2021
Checked By: LJR
Project No.: 20-069

REVISIONS

#	Date	Drwn	Chk'd	App'd	Description

DRAWING SCALE

0 20 40 Feet

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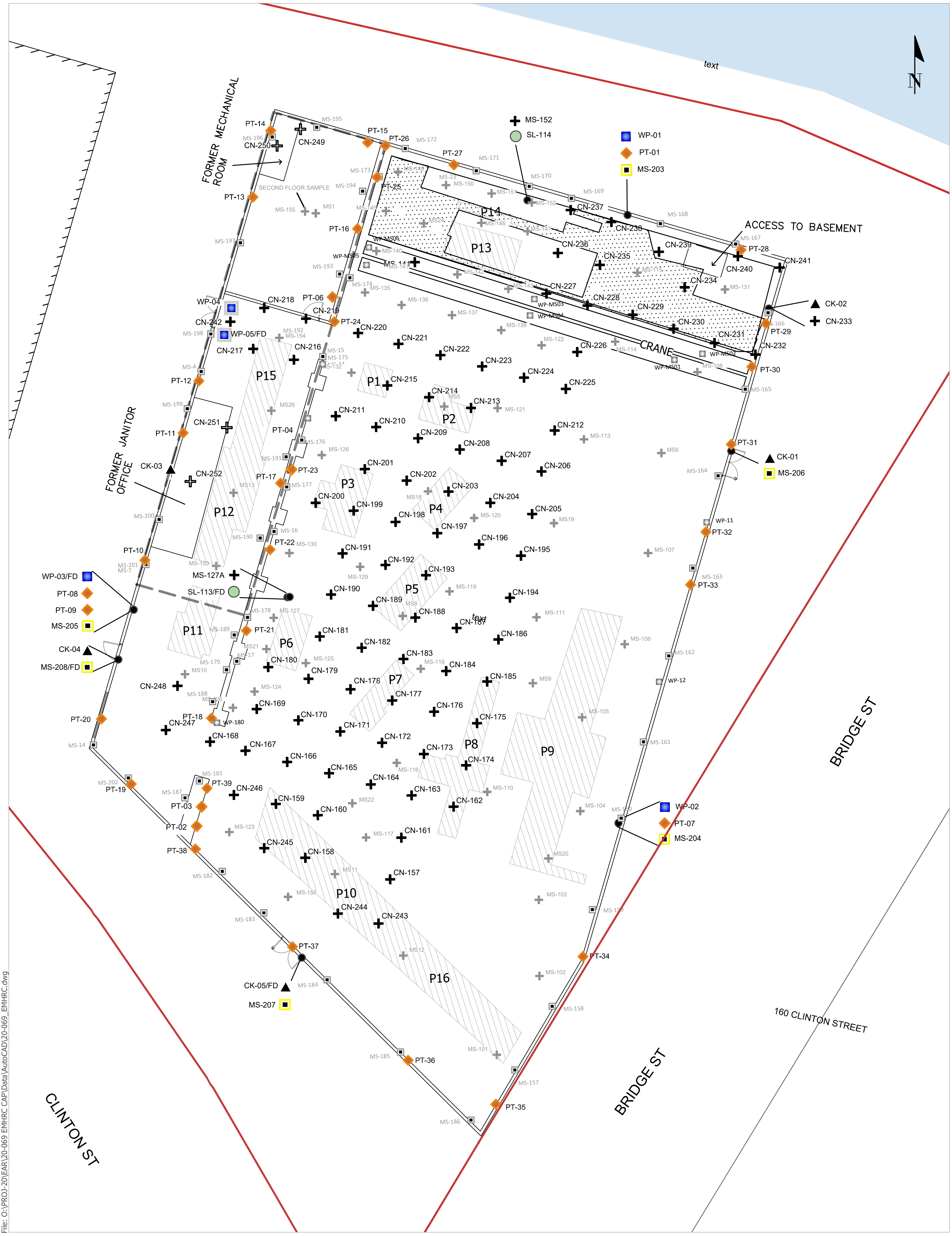
CONCEPTUAL FLOOR PLAN
EDGAR MAY HEALTH AND RECREATION CENTER
140 CLINTON STREET
SPRINGFIELD VERMONT

FIGURE NO.
5



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LEGEND

🟥	SITE BOUNDARY		**2020 SITE INVESTIGATION LOCATIONS** WIPE SAMPLE LOCATION	▪	2010 PHASE II ESA WALL SAMPLE LOCATION
☐	PARCEL BOUNDARY	◆	PAINT SAMPLE LOCATION (PT-01-PT-09)	+	2010 PHASE II ESA CONCRETE SAMPLE LOCATION
▨	MACHINE BASE	▲	CAULK SAMPLE LOCATION	▪	2010 PHASE II ESA WIPE SAMPLE LOCATION
▩	BASEMENT	▪	MASONRY SAMPLE LOCATION	◆	**2021 SITE INVESTIGATION LOCATIONS** PAINT SAMPLE LOCATION (PT-10-PT-38)
☐	ANNEX	✚	CONCRETE SAMPLE LOCATION	✚	**2023 SAMPLE LOCATIONS** CONCRETE
		●	SOIL SAMPLE LOCATION	▪	WIPE

NOTES:
BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

CONCRETE SAMPLE GRID IS APPROXIMATE 10' SPACING.

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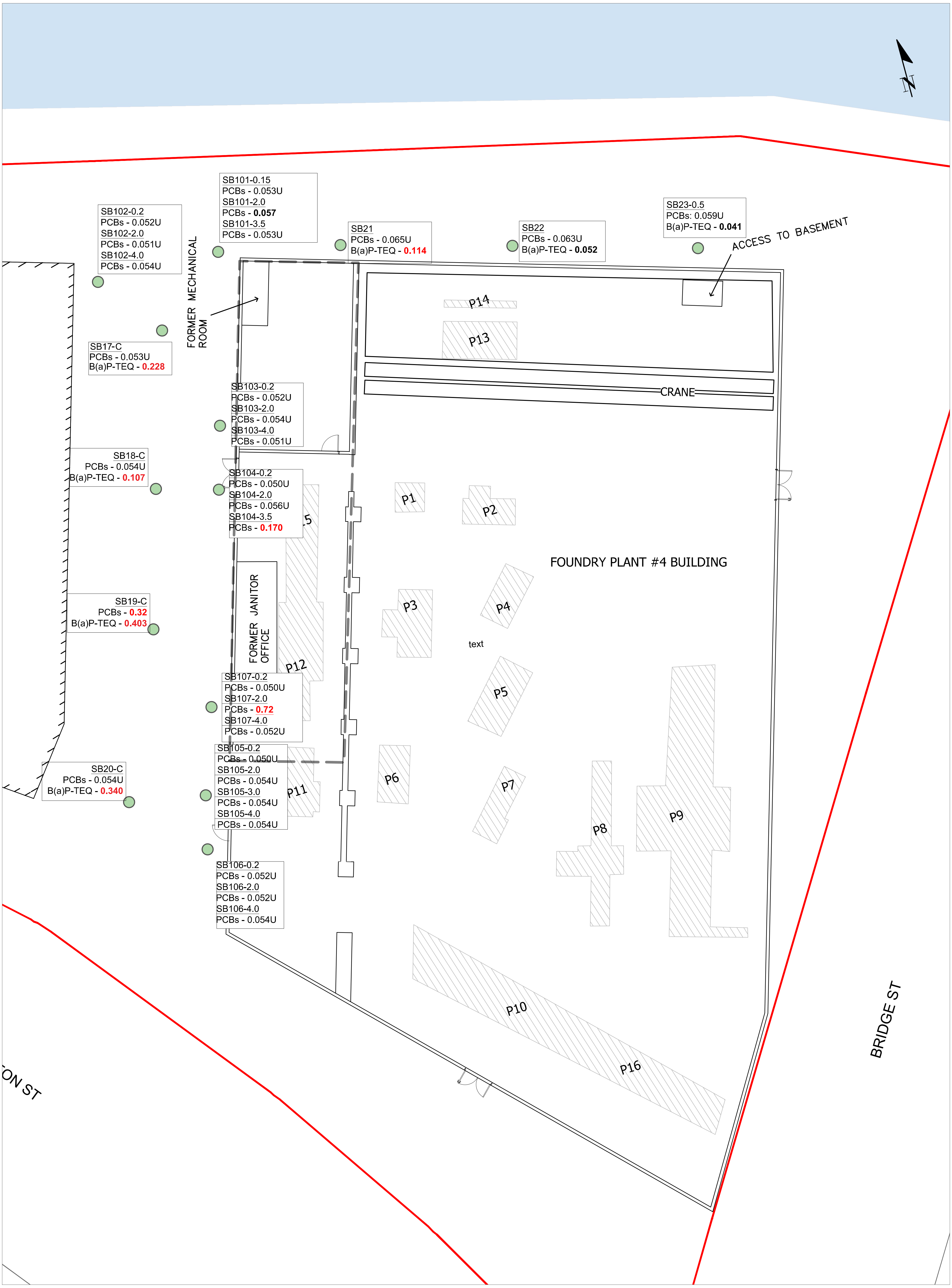
Drawn On: 1/11/2024
Drawn By: LBR
Checked On: 1/11/2024
Checked By: DTV
Project No.: 20-069

DRAWING SCALE
0 20 40
Feet

STONE
ENVIRONMENTAL

SITE INVESTIGATION SAMPLE LOCATIONS
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET
SPRINGFIELD VERMONT

FIGURE NO.
6



LEGEND

🟥 SITE BOUNDARY

☐ PARCEL BOUNDARY

▨ MACHINE BASE

☐ ANNEX

🟦 BLACK RIVER

● SOIL SAMPLE LOCATION

ENFORCEMENT STANDARDS:
PCBs - VSS Resident Soil - 0.114 mg/kg
PCBs - VSS Non-Resident Soil - 0.68 mg/kg
B(a)P-TEQ - VSS Resident Soil - 0.070 mg/kg
B(a)P-TEQ - VSS Non-Resident Soil - 1.54 mg/kg
B(a)P-TEQ - VSS Urban Backgroung Soil - 0.58 mg/kg

NOTES:
U - Analyte not detected; limit of quantitation listed
Bold - results indicate detections of the analyte
Red - results indicate an exceedence of VSS Resident Soil enforcement standard
Underline - results indicate an exceedence of VSS Non-Resident Soil enforcement standard

VSS - Vermont Soil Standards
mg/kg - milligrams/kilogram

FILE: O:\PROJ-20\EAR\20-069 EMHRC CAP\Data\AutoCAD\20-069_EMHRC_110920.dwg

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Drawn On:	09/16/2021
Drawn By:	LBR
Checked On:	09/20/2021
Checked By:	LJR
Project No.:	20-069

DRAWING SCALE

0 20 40 Feet

STONE
ENVIRONMENTAL

PREVIOUS SAMPLE LOCATION & RESULTS - EXTERIOR SOIL
EDGAR MAY HEALTH AND RECREATION CENTER
140 CLINTON STREET

SPRINGFIELD VERMONT

FIGURE NO. 7

LEGEND

▭	SITE BOUNDARY
▭	PARCEL BOUNDARY
▭	PHASE II DEVELOPMENT
▭	PHASE III DEVELOPMENT
▨	MACHINE BASE
▒	BASEMENT
▭	ANNEX
—	1' CONTOUR
●	2010 PHASE II ESA WALL SAMPLE LOCATION
○	40 FOOT GRID WALL SAMPLE AT 6 FEET ABOVE GROUND
●	20 FOOT GRID WALL SAMPLE AT 3 FEET ABOVE GROUND
□	WIPE SAMPLE
0.55	PCB CONCENTRATION < 1 mg/Kg / 10 ug/100cm^2
2.19	PCB CONCENTRATIONS ≥ 1 mg/kg, < 10 mg/kg / 10 ug/100cm^2
23.1	PCB CONCENTRATIONS ≥ 10 mg/kg, < 50 mg/Kg / 100 ug/100cm^2
173	PCB CONCENTRATIONS ≥ 50 mg/Kg / 100 ug/100cm^2

NOTE:
BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

ALL SAMPLES REPORTED IN mg/kg EXCEPT FOR WIPE SAMPLES WHICH ARE REPORTED AS ug/100cm^2.

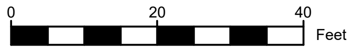
SAMPLES CONCENTRATIONS WITH IN (BRACKETS) WERE SAMPLES COLLECTED AT 6' ABOVE THE FLOOR. ALL OTHER SAMPLES COLLECTED AT 3' ABOVE THE FLOOR.

WIPE SAMPLES COLLECTED ON CRANE RAIL WERE COLLECTED 20' ABOVE GROUND SURFACE (WP-11, WP-12, WP-13, WP-14).

PARCEL BOUNDARY AND 1' STATEWIDE CONTOURS - VCGI

DRAWING CREDITS
Drawn On: 8/28/2020
Drawn By: LBR
Checked On: 8/28/2020
Checked By: LJR
Project No.: 20-069

DRAWING SCALE

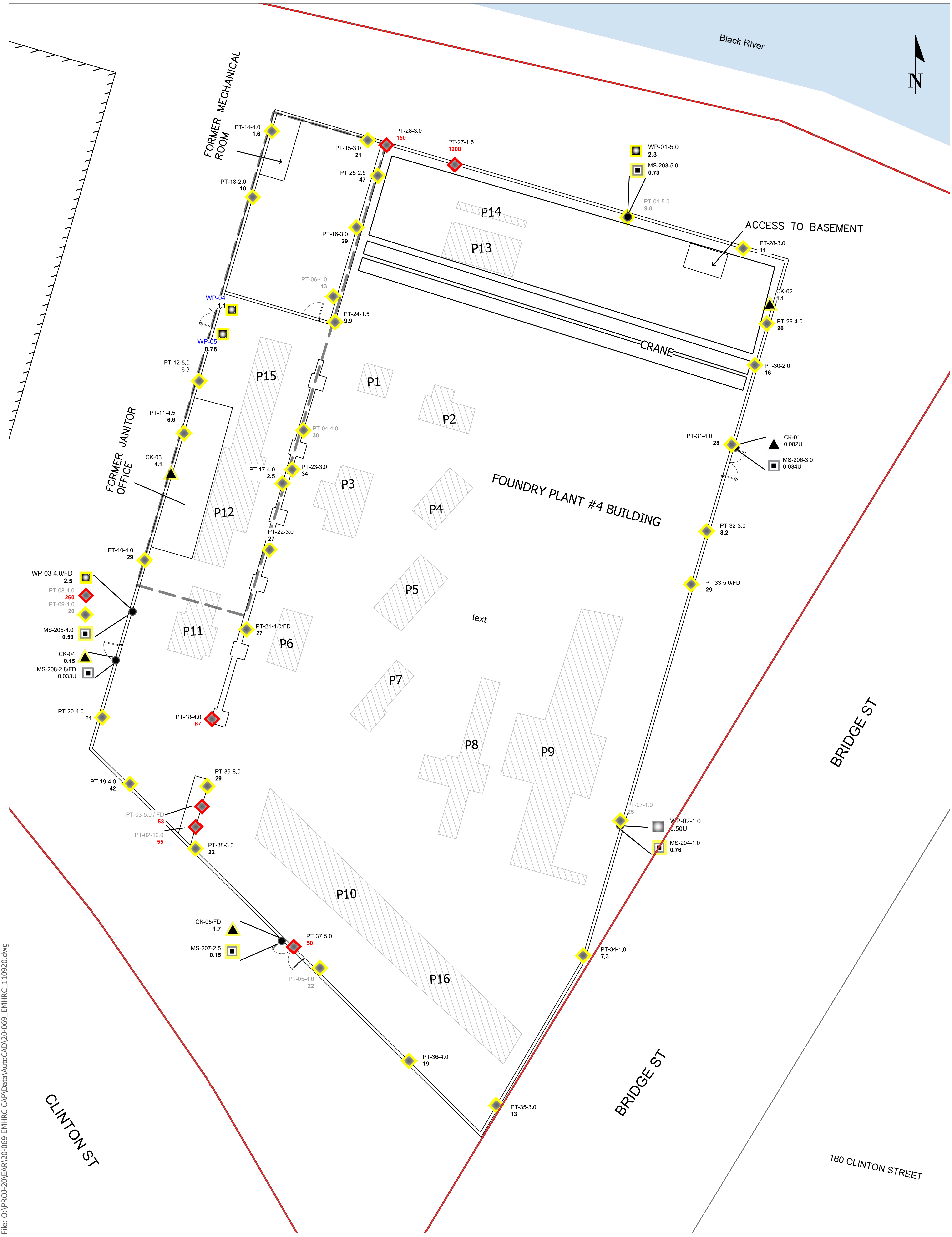


STONE ENVIRONMENTAL

2010-2011 MASONRY & SURFACE SAMPLE LOCATIONS & RESULTS
FORMER PLANT #4 - EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET

SPRINGFIELD VERMONT

FIGURE NO.
8



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LEGEND

🟥	SITE BOUNDARY
▭	PARCEL BOUNDARY
▨	MACHINE BASE
▭	FORMER PLANT #4 BUILDING
⬚	ANNEX

WIPE SAMPLES

▣	NON-DETECT
▣	DETECTION; < 10 µg/100cm²

PAINT SAMPLES

◆	NON-DETECT
◆	DETECTION; <50 mg/kg
◆	DETECTION; ≥ 50 mg/Kg

MASONRY SAMPLES

▣	NON-DETECT
▣	DETECTION; <1.0 mg/kg

CAULK SAMPLES

▲	NON-DETECT
▲	DETECTION; <50 mg/kg

ENFORCEMENT STANDARDS:
TSCA PCB Bulk Product Waste - 50 mg/kg

NOTES:
Sample locations with black text indicate sampling event from March 22, 2021.
Sampling location with gray text indicate sampling event from October 27, 2020
Sampling location with blue text indicate sampling event from December 8, 2023

U - Analyte not detected; limit of quantitation listed
Bold - results indicate detections of the analyte
Red - results indicate an exceedence of an enforcement standard
Values below sample location ID indicate Total PCBs

TSCA - Toxic Substance Control Act

SOURCES:
BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

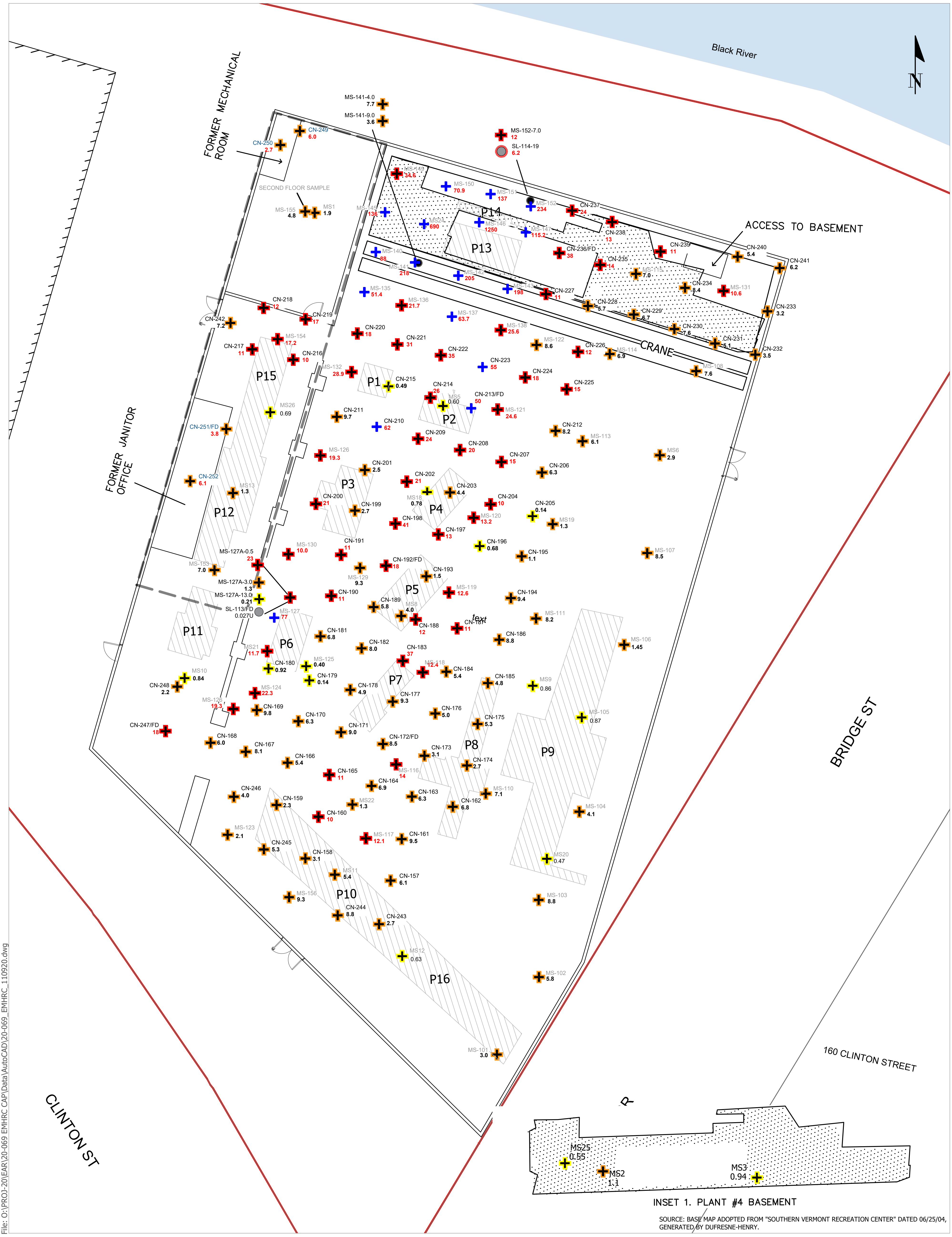
DRAWING CREDITS
Drawn On: 4/12/2021
Drawn By: LBR
Checked On: 4/13/2021
Checked By: LJR
Project No.: 20-069

DRAWING SCALE
0 20 40
Feet

STONE ENVIRONMENTAL

PCB RESULTS - BULK PRODUCTS
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET
SPRINGFIELD VERMONT

FIGURE NO.
9



SOURCE: BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

LEGEND

🟥 SITE BOUNDARY

☐ PARCEL BOUNDARY

▨ MACHINE BASE

☐ FORMER PLANT #4 BUILDING

[ ] ANNEX

CONCRETE RESULTS

- DETECTION; < 1 mg/Kg
- DETECTION; ≥ 1 mg/kg <10 mg/Kg
- DETECTION; ≥ 10 mg/kg <50 mg/kg
- DETECTION; ≥ 50 mg/kg

SOIL RESULTS

● NON-DETECT

● DETECTION; ≥ 1 mg/kg ≤ 10 mg/kg

ENFORCEMENT STANDARDS:
TSCA Solid Porous Media High Occupancy Walkaway - 1.0 mg/kg
TSCA Solid Porous Media High Occupancy Cap - Exceedance of 10 mg/kg
VSS - Resident Soil - 0.114 mg/kg
VSS - Non-Resident Soil - 0.68 mg/kg
TSCA Soil Media High Occupancy Walkaway - 1.0 mg/kg

NOTES:
U - Analyte not detected; limit of quantitation listed
Bold - results indicate detections of the analyte
Red - results indicate an exceedence of Solid Porous Media High Occupancy Cap or VSS Non-Resident Soil enforcement standard
Values below sample location ID indicate Total PCBs

Sample IDs in black font from 2020 Site Investigation
Sample IDs in grey font from 2010-2011 Site Investigation
Sample IDs in blue font from 2023 Supplemental Assessment
TSCA - Toxic Substance Control Act
VSS - Vermont Soil Standards
mg/kg - milligrams/kilogram

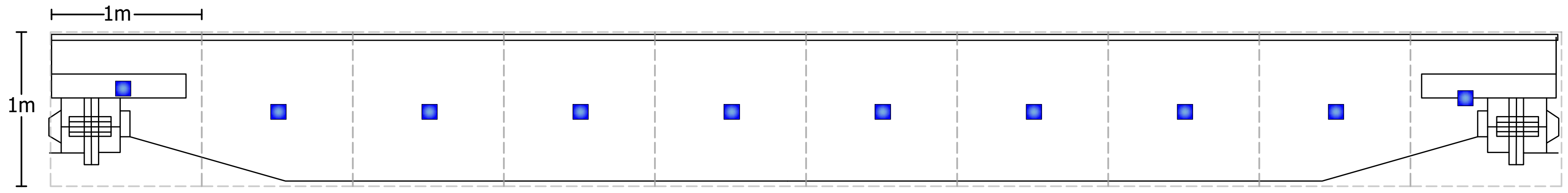
DRAWING CREDITS
Drawn On: 1/11/2024
Drawn By: LBR
Checked On: 1/11/2024
Checked By: DTV
Project No.: 20-069

DRAWING SCALE
0 20 40
Feet

STONE ENVIRONMENTAL

PCB RESULTS - CONCRETE & SOIL
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET
SPRINGFIELD VERMONT

FIGURE NO. 10



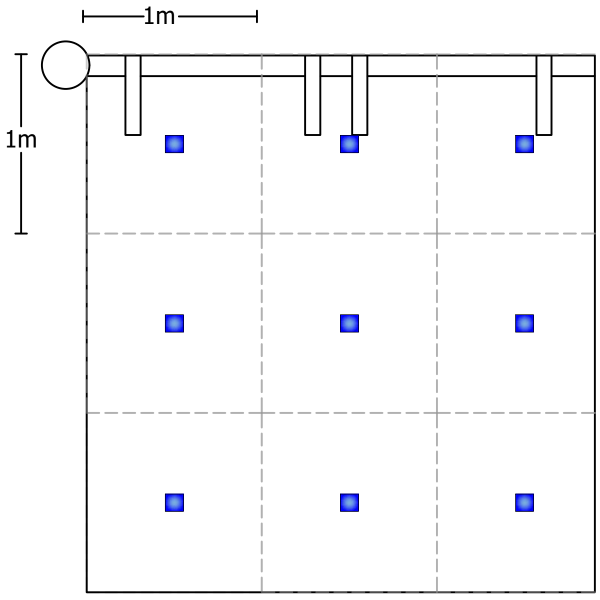
GANTRY CRANE DETAIL

Note: Wipe sample locations are on each side of crane

Not to Scale

LEGEND

- 🟥 SITE BOUNDARY
- ▭ PARCEL BOUNDARY
- ▨ MACHINE BASE
- ▭ FORMER PLANT #4 BUILDING
- ⬚ ANNEX
- ■ PROPOSED WIPE SAMPLES



METAL DOOR DETAIL

Note: Wipe sample locations are on each side of door

Not to Scale

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DRAWING CREDITS

Drawn On: 1/11/2024
Drawn By: LBR
Checked On: 1/11/2024
Checked By: DTV
Project No.: 20-069

DRAWING SCALE

0 20 40
Feet

CLEANUP VERIFICATION SAMPLES - NON-POROUS MATERIALS
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET

SPRINGFIELD VERMONT

FIGURE NO.

11

Concrete Removal Areas:

Non-Hazardous Waste; <50 mg/kg = **15,875 ft²**
Non-Hazardous Waste, Machine Base; <50 mg/kg = **2,665 ft²**
Hazardous Waste; ≥50 mg/kg = **1,172 ft²**
Hazardous Waste, Machine Base; ≥50 mg/kg = **203 ft²**

SOURCE: BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

LEGEND

🟥 SITE BOUNDARY
☐ PARCEL BOUNDARY
▨ MACHINE BASE
☐ FORMER PLANT #4 BUILDING
☐ ANNEX

CONCRETE RESULTS
+ DETECTION; < 1 mg/Kg
+ DETECTION; ≥ 1 mg/Kg <10 mg/Kg
+ DETECTION; ≥ 10 mg/kg <50 mg/kg
+ DETECTION; ≥ 50 mg/kg

SOIL RESULTS
● DETECTION; ≥ 1 mg/kg ≤ 10 mg/kg

☐ Non-Hazardous Waste; <50 mg/kg
▨ Non-Hazardous Waste; <50 mg/kg - Machine Base
🟥 Hazardous Waste; >50 mg/kg
▨ Hazardous Waste; >50 mg/kg - Machine Base
▦ Non-Hazardous Waste Soil; 10' x 7'
▒ Basement

ENFORCEMENT STANDARDS:
TSCA Solid Porous Media High Occupancy Walkaway - 1.0 mg/kg
TSCA Solid Porous Media High Occupancy Cap - Exceedance of 10 mg/kg

TSCA - Toxic Substance Control Act
mg/kg - milligrams/kilogram

DRAWING CREDITS
Drawn On: 09/16/2021
Drawn By: LBR
Checked On: 9/20/2021
Checked By: LJR
Project No.: 20-069

DRAWING SCALE
0 20 40
Feet

STONE ENVIRONMENTAL

CONCRETE AND INTERIOR SOIL REMOVAL PLAN
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET
SPRINGFIELD VERMONT

FIGURE NO.
12

SOURCE: BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

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LEGEND

🟥	SITE BOUNDARY
☐	PARCEL BOUNDARY
☐	FORMER PLANT#4 BUILDING
▨	MACHINE BASE
⬚	ANNEX
🟨	WALLS TO BE SANDBLASTED AND WITH VERIFICATION SAMPLES
◐	EXCAVATION BASE AND SIDEWALL SOIL VERIFICATION SAMPLE LOCATION
●	SOIL VERIFICATION SAMPLE LOCATION
✚	CONCRETE VERIFICATION SAMPLE LOCATION
🟢	PROPOSED INDOOR AIR LOCATION - PCBs
🟡	PROPOSED AMBIENT AIR LOCATION - PCBs
✖	WALL VERIFICATION SAMPLE LOCATIONS (2 EACH AT 20' VERTICAL SPACING)
⊕	CEILING VERIFICATION SAMPLE LOCATION

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Drawn On: 1/11/2024
Drawn By: LBR
Checked On: 1/11/2024
Checked By: DTV
Project No.: 20-069

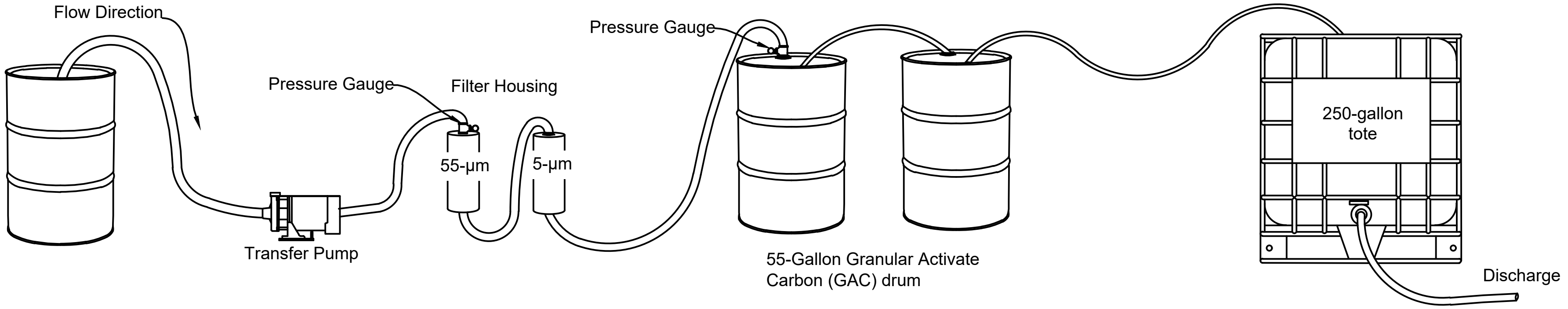
DRAWING SCALE
0 20 40
Feet

STONE ENVIRONMENTAL

CLEANUP VERIFICATION SAMPLE LOCATIONS
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET

SPRINGFIELD VERMONT

FIGURE NO.
13



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Drawn On: 09/21/2021
Drawn By: LBR
Checked On: 09/21/2021
Checked By: LJR
Project No.: 20-069

DRAWING SCALE
Not to Scale

STONE ENVIRONMENTAL
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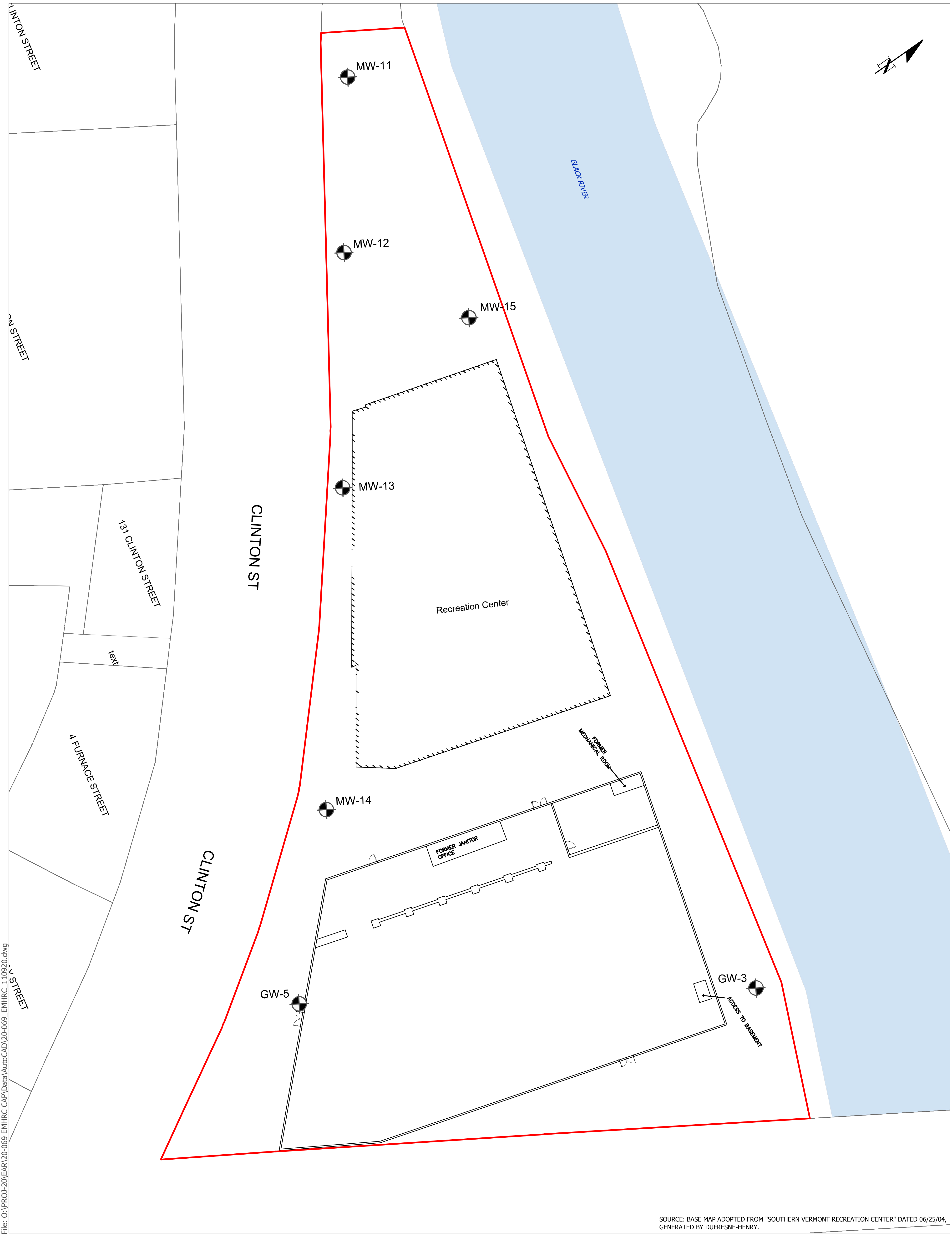
WATER TREATMENT SYSTEM
EDGAR MAY HEALTH & RECREATION CENTER
160 CLINTON STREET

SPRINGFIELD VERMONT

FIGURE NO.
14



SOURCE: BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

File: O:\PROJ-20\EAR\20-069 EMHRC CAP\Data\AutoCAD\20-069_EMHRC_110920.dwg

LEGEND

🟥	SITE BOUNDARY
☐	PARCEL BOUNDARY
☐	BUILDING OUTLINE
⊕	MONITORING WELL

DRAWING CREDITS

Drawn On:	9/16/2021
Drawn By:	LBR
Checked On:	9/20/2021
Checked By:	LJR
Project No.:	20-069

DRAWING SCALE

0 20 40 Feet

STONE ENVIRONMENTAL

MONITORING WELL LOCATIONS
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET

SPRINGFIELD VERMONT

FIGURE NO. 15

Appendix B: Tables

Table B-1

Polychlorinated Biphenyl Analytical Results – Caulk, Glazing, and Paint Samples

Sample ID		**TSCA PCB Bulk Product Waste**	**CK-01**		**CK-02**		**CK-03**		**CK-04**		**CK-05**		**CK-05-FD**	
Sample Date	**CAS#**		**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	0.082	U	0.15	U	0.36	U	0.088	U	0.25	U	0.30	U
PCB-1221	11104-28-2	50	0.082	U	0.15	U	0.36	U	0.088	U	0.25	U	0.30	U
PCB-1232	11141-16-5	50	0.082	U	0.15	U	0.36	U	0.088	U	0.25	U	0.30	U
PCB-1242	53469-21-9	50	0.082	U	0.15	U	0.36	U	0.088	U	0.25	U	0.30	U
PCB-1248	12672-29-6	50	0.082	U	0.15	U	0.36	U	0.088	U	0.25	U	0.30	U
PCB-1254	11097-69-1	50	0.082	U	*	*	*	*	**0.15**		0.25	U	0.30	U
PCB-1260	11096-82-5	50	0.082	U	**1.1**	*	**4.1**	*	0.088	U	**1.2**		**1.7**	
PCB-1262	37324-23-5	50	0.082	U	0.15	U	0.36	U	0.088	U	0.25	U	0.30	U
PCB-1268	11100-14-4	50	0.082	U	0.15	U	0.36	U	0.088	U	0.25	U	0.30	U
Total PCBs	1336-36-3	50	0.082	U	**1.1**		**4.1**		**0.15**		**1.2**		**1.7**	
Sample ID		**TSCA PCB Bulk Product Waste**	**PT-01-5.0**		**PT-02-10.0**		**PT-03-5.0**		**PT-03-5.0-FD**		**PT-04-4.0**		**PT-05-4.0**	
Sample Date	**CAS#**		**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
PCB-1221	11104-28-2	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
PCB-1232	11141-16-5	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
PCB-1242	53469-21-9	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
PCB-1248	12672-29-6	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
PCB-1254	11097-69-1	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
PCB-1260	11096-82-5	50	**9.8**		**55**		**43**		**53**		**38**		**22**	
PCB-1262	37324-23-5	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
PCB-1268	11100-14-4	50	2.3	U	15	U	20	U	26	U	20	U	7.4	U
Total PCBs	1336-36-3	50	**9.8**		**55**		**43**		**53**		**38**		**22**	
Sample ID		**TSCA PCB Bulk Product Waste**	**PT-06-4.0**		**PT-07-1.0**		**PT-08-4.0**		**PT-09-4.0**		**PT-10-4.0**		**PT-11-4.5**	
Sample Date	**CAS#**		**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	1.9	U	3.5	U	62	U	1.7	U	6.5	U	0.56	U
PCB-1221	11104-28-2	50	1.9	U	3.5	U	62	U	1.7	U	6.5	U	0.56	U
PCB-1232	11141-16-5	50	1.9	U	3.5	U	62	U	1.7	U	6.5	U	0.56	U
PCB-1242	53469-21-9	50	1.9	U	3.5	U	62	U	1.7	U	6.5	U	0.56	U
PCB-1248	12672-29-6	50	1.9	U	3.5	U	62	U	1.7	U	6.5	U	0.56	U
PCB-1254	11097-69-1	50	*	*	*	*	62	U	1.7	U	6.5	U	0.56	U
PCB-1260	11096-82-5	50	**13**	*	**25**	*	**260**		**20**		**29**		**6.6**	
PCB-1262	37324-23-5	50	1.9	U	3.5	U	62	U	1.7	U	6.5	U	0.56	U
PCB-1268	11100-14-4	50	1.9	U	3.5	U	62	U	1.7	U	6.5	U	0.56	U
Total PCBs	1336-36-3	50	**13**		**25**		**260**		**20**		**29**		**6.6**	

Table B-1
Polychlorinated Biphenyl Analytical Results – Caulk, Glazing, and Paint Samples

Sample ID		TSCA PCB Bulk Product Waste	PT-12-5.0		PT-13-2.0		PT-14-4.0		PT-15-3.0		PT-16-3.0		PT-17-4.0	
Sample Date	**CAS#**		**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	1.9	U	3.1	U	0.75	U	3.9	U	3.4	U	0.8	U
PCB-1221	11104-28-2	50	1.9	U	3.1	U	0.75	U	3.9	U	3.4	U	0.8	U
PCB-1232	11141-16-5	50	1.9	U	3.1	U	0.75	U	3.9	U	3.4	U	0.8	U
PCB-1242	53469-21-9	50	1.9	U	3.1	U	0.75	U	3.9	U	3.4	U	0.8	U
PCB-1248	12672-29-6	50	1.9	U	3.1	U	0.75	U	3.9	U	3.4	U	0.8	U
PCB-1254	11097-69-1	50	1.9	U	3.1	*U	0.75	U	3.9	*U	3.4	*U	0.8	U
PCB-1260	11096-82-5	50	**8.3**		**10**	*	**1.6**		**21**	*	**29**	*	**2.5**	
PCB-1262	37324-23-5	50	1.9	U	3.1	U	0.75	U	3.9	U	3.4	U	0.8	U
PCB-1268	11100-14-4	50	1.9	U	3.1	U	0.75	U	3.9	U	3.4	U	0.8	U
Total PCBs	1336-36-3	50	**8.3**		**10**		**1.6**		**21**		**29**		**2.5**	

Sample ID		TSCA PCB Bulk Product Waste	PT-18-4.0		PT-19-4.0		PT-20-4.0		PT-21-4.0		PT-21-4.0 FD		PT-22-3.0	
Sample Date	**CAS#**		**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	8.6	U	7.6	U	3.7	U	3.5	U	15	U	7.6	U
PCB-1221	11104-28-2	50	8.6	U	7.6	U	3.7	U	3.5	U	15	U	7.6	U
PCB-1232	11141-16-5	50	8.6	U	7.6	U	3.7	U	3.5	U	15	U	7.6	U
PCB-1242	53469-21-9	50	8.6	U	7.6	U	3.7	U	3.5	U	15	U	7.6	U
PCB-1248	12672-29-6	50	8.6	U	7.6	U	3.7	U	3.5	U	15	U	7.6	U
PCB-1254	11097-69-1	50	8.6	U	7.6	U	3.7	U	3.5	*U	15	U	7.6	*U
PCB-1260	11096-82-5	50	**67**		**42**		**24**		**26**	*	**27**		**27**	*
PCB-1262	37324-23-5	50	8.6	U	7.6	U	3.7	U	3.5	U	15	U	7.6	U
PCB-1268	11100-14-4	50	8.6	U	7.6	U	3.7	U	3.5	U	15	U	7.6	U
Total PCBs	1336-36-3	50	**67**		**42**		**24**		**26**		**27**		**27**	

Sample ID		TSCA PCB Bulk Product Waste	PT-23-3.0		PT-24-1.5		PT-25-2.5		PT-26-3.0		PT-27-1.5		PT-28-3.0	
Sample Date	**CAS#**		**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	8.4	U	2.7	U	43	U	44	U	360	U	3.3	U
PCB-1221	11104-28-2	50	8.4	U	2.7	U	43	U	44	U	360	U	3.3	U
PCB-1232	11141-16-5	50	8.4	U	2.7	U	43	U	44	U	360	U	3.3	U
PCB-1242	53469-21-9	50	8.4	U	2.7	U	43	U	44	U	360	U	3.3	U
PCB-1248	12672-29-6	50	8.4	U	2.7	U	43	U	44	U	360	U	3.3	U
PCB-1254	11097-69-1	50	8.4	*U	2.7	U	43	U	44	U	360	U	3.3	U
PCB-1260	11096-82-5	50	**34**	*	**9.9**		**47**		**150**		**1200**		**11**	
PCB-1262	37324-23-5	50	8.4	U	2.7	U	43	U	44	U	360	U	3.3	U
PCB-1268	11100-14-4	50	8.4	U	2.7	U	43	U	44	U	360	U	3.3	U
Total PCBs	1336-36-3	50	**34**		**9.9**		**47**		**150**		**1200**		**11**	

Table B-1
Polychlorinated Biphenyl Analytical Results – Caulk, Glazing, and Paint Samples

Sample ID		TSCA PCB Bulk Product Waste	PT-29-4.0		PT-30-2.0		PT-31-4.0		PT-32-3.0		PT-33-5.0		PT-33-5.0 FD	
Sample Date	**CAS#**		**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	3.6	U	3.3	U	6.3	U	0.72	U	8.3	U	24	U
PCB-1221	11104-28-2	50	3.6	U	3.3	U	6.3	U	0.72	U	8.3	U	24	U
PCB-1232	11141-16-5	50	3.6	U	3.3	U	6.3	U	0.72	U	8.3	U	24	U
PCB-1242	53469-21-9	50	3.6	U	3.3	U	6.3	U	0.72	U	8.3	U	24	U
PCB-1248	12672-29-6	50	3.6	U	3.3	U	6.3	U	0.72	U	8.3	U	24	U
PCB-1254	11097-69-1	50	3.6	U	3.3	*U	6.3	U	0.72	*U	8.3	U	24	U
PCB-1260	11096-82-5	50	**20**		**16**	*	**28**		**8.2**	*	**22**		**29**	
PCB-1262	37324-23-5	50	3.6	U	3.3	U	6.3	U	0.72	U	8.3	U	24	U
PCB-1268	11100-14-4	50	3.6	U	3.3	U	6.3	U	0.72	U	8.3	U	24	U
Total PCBs	1336-36-3	50	**20**		**16**		**28**		**8.2**		**22**		**29**	

Sample ID		TSCA PCB Bulk Product Waste	PT-34-1.0		PT-35-3.0		PT-36-4.0		PT-37-5.0		PT-38-3.0		PT-39-8.0	
Sample Date	**CAS#**		**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**	**3/22/2021**	**Q**
		(mg/Kg)												
PCB-1016	12674-11-2	50	0.76	U	1.1	U	2.2	U	9.4	U	16	U	11	U
PCB-1221	11104-28-2	50	0.76	U	1.1	U	2.2	U	9.4	U	16	U	11	U
PCB-1232	11141-16-5	50	0.76	U	1.1	U	2.2	U	9.4	U	16	U	11	U
PCB-1242	53469-21-9	50	0.76	U	1.1	U	2.2	U	9.4	U	16	U	11	U
PCB-1248	12672-29-6	50	0.76	U	1.1	U	2.2	U	9.4	U	16	U	11	U
PCB-1254	11097-69-1	50	0.76	*U	1.1	*U	2.2	*U	9.4	*U	16	U	11	U
PCB-1260	11096-82-5	50	**7.3**	*	**13**	*	**19**	*	**50**	*	**22**		**29**	
PCB-1262	37324-23-5	50	0.76	U	1.1	U	2.2	U	9.4	U	16	U	11	U
PCB-1268	11100-14-4	50	0.76	U	1.1	U	2.2	U	9.4	U	16	U	11	U
Total PCBs	1336-36-3	50	**7.3**		**13**		**19**		**50**		**22**		**29**	

Key:
TSCA - Toxic Substance Control Act threshold for PCB Bulk Product Waste
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed
RPD - Relative percent difference

* For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no longer recognizable, quantitation may be performed by comparing the total area of the PCB pattern to that of the aroclor it mostly resembles. The PCB pattern did not resemble any of the standards, but most closely resembles a mixture of the Aroclors 1254 and 1260. The PCB is quantitated as a timed group and is reported as the Aroclor 1260.

Table B-3
Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	AMR-MS-MS01		AMR-MS-MS02		AMR-MS-MS03		AMR-MS-MS03-FD		AMR-MS-MS04		AMR-MS-MS05		RPD AMR-MS-MS03
Sample Date				12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	
		(mg/Kg)	(mg/Kg)													
PCB-1016	12674-11-2	1	10	0.99	U	0.48	U	0.50	U	0.053	U	0.046	U	0.050	U	--
PCB-1221	11104-28-2	1	10	0.99	U	0.48	U	0.50	U	0.053	U	0.046	U	0.050	U	--
PCB-1232	11141-16-5	1	10	0.99	U	0.48	U	0.50	U	0.053	U	0.046	U	0.050	U	--
PCB-1242	53469-21-9	1	10	0.99	U	0.48	U	0.50	U	0.053	U	0.046	U	0.050	U	--
PCB-1248	12672-29-6	1	10	0.99	U	0.48	U	0.50	U	0.053	U	0.046	U	0.050	U	--
PCB-1254	11097-69-1	1	10	0.99	U	0.48	U	0.50	U	0.053	U	**0.49**		0.050	U	--
PCB-1260	11096-82-5	1	10	**1.9**		**1.1**		**0.67**		**0.94**		**0.26**		**0.600**		**34%**
PCB-1262	37324-23-5	1	10	0.99	U	0.48	U	0.50	U	0.053	U	0.046	U	0.050	U	--
PCB-1268	11100-14-4	1	10	0.99	U	0.48	U	0.50	U	0.053	U	0.046	U	0.050	U	--
Total PCBs	1336-36-3	1	10	**1.9**		**1.1**		**0.67**		**0.94**		**0.75**		**0.600**		**34%**

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	AMR-MS-MS06		AMR-MS-MS07		AMR-MS-MS08		AMR-MS-MS09		AMR-MS-MS10		AMR-MS-MS11		RPD AMR-MS-MS11
Sample Date				12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	
		(mg/Kg)	(mg/Kg)													
PCB-1016	12674-11-2	1	10	0.095	U	0.048	U	0.50	U	0.05	U	0.47	U	0.49	U	--
PCB-1221	11104-28-2	1	10	0.095	U	0.048	U	0.50	U	0.05	U	0.47	U	0.49	U	--
PCB-1232	11141-16-5	1	10	0.095	U	0.048	U	0.50	U	0.05	U	0.47	U	0.49	U	--
PCB-1242	53469-21-9	1	10	0.095	U	0.048	U	0.50	U	0.05	U	0.47	U	0.49	U	--
PCB-1248	12672-29-6	1	10	0.095	U	0.048	U	0.50	U	0.05	U	0.47	U	0.49	U	--
PCB-1254	11097-69-1	1	10	0.095	U	0.048	U	**1.9**		0.05	U	0.47	U	0.49	U	--
PCB-1260	11096-82-5	1	10	**2.9**		**0.28**		**2.1**		**0.86**		**0.84**		**5.4**		**2%**
PCB-1262	37324-23-5	1	10	0.095	U	0.048	U	0.50	U	0.05	U	0.47	U	0.49	U	--
PCB-1268	11100-14-4	1	10	0.095	U	0.048	U	0.50	U	0.05	U	0.47	U	0.49	U	--
Total PCBs	1336-36-3	1	10	**2.9**		**0.28**		**4.0**		**0.86**		**0.84**		**5.4**		**2%**

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	AMR-MS-MS11-FD		AMR-MS-MS12		AMR-MS-MS13		AMR-MS-MS14		AMR-MS-MS15		AMR-MS-MS16	
Sample Date				12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q
		(mg/Kg)	(mg/Kg)												
PCB-1016	12674-11-2	1	10	0.50	U	0.51	U	0.98	U	0.049	U	0.046	U	0.050	U
PCB-1221	11104-28-2	1	10	0.50	U	0.51	U	0.98	U	0.049	U	0.046	U	0.050	U
PCB-1232	11141-16-5	1	10	0.50	U	0.51	U	0.98	U	0.049	U	0.046	U	0.050	U
PCB-1242	53469-21-9	1	10	0.50	U	0.51	U	0.98	U	0.049	U	0.046	U	0.050	U
PCB-1248	12672-29-6	1	10	0.50	U	0.51	U	0.98	U	0.049	U	0.046	U	0.050	U
PCB-1254	11097-69-1	1	10	0.50	U	0.51	U	0.98	U	**0.16**		**0.58**		**0.74**	
PCB-1260	11096-82-5	1	10	**5.3**		**0.63**		**1.3**		**0.33**		**0.47**		**0.41**	
PCB-1262	37324-23-5	1	10	0.50	U	0.51	U	0.98	U	0.049	U	0.046	U	0.050	U
PCB-1268	11100-14-4	1	10	0.50	U	0.51	U	0.98	U	0.049	U	0.046	U	0.050	U
Total PCBs	1336-36-3	1	10	**5.3**		**0.63**		**1.3**		**0.49**		**1.05**		**1.15**	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	AMR-MS-MS17		AMR-MS-MS18		AMR-MS-MS19		AMR-MS-MS20		AMR-MS-MS21		AMR-MS-MS22	
Sample Date				12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q
		(mg/Kg)	(mg/Kg)												
PCB-1016	12674-11-2	1	10	0.97	U	0.049	U	0.048	U	0.05	U	0.26	U	0.048	U
PCB-1221	11104-28-2	1	10	0.97	U	0.049	U	0.048	U	0.05	U	0.26	U	0.048	U
PCB-1232	11141-16-5	1	10	0.97	U	0.049	U	0.048	U	0.05	U	0.26	U	0.048	U
PCB-1242	53469-21-9	1	10	0.97	U	0.049	U	0.048	U	0.05	U	0.26	U	0.048	U
PCB-1248	12672-29-6	1	10	0.97	U	0.049	U	0.048	U	0.05	U	0.26	U	0.048	U
PCB-1254	11097-69-1	1	10	***16***		0.049	U	0.048	U	0.05	U	**8.8**		0.048	U
PCB-1260	11096-82-5	1	10	**7.5**		**0.78**		**1.3**		**0.47**		**2.9**		**1.3**	
PCB-1262	37324-23-5	1	10	0.97	U	0.049	U	0.048	U	0.05	U	0.26	U	0.048	U
PCB-1268	11100-14-4	1	10	0.97	U	0.049	U	0.048	U	0.05	U	0.26	U	0.048	U
Total PCBs	1336-36-3	1	10	***23.5***		**0.78**		**1.3**		**0.47**		***11.7***		**1.3**	

Table B-3

Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	AMR-MS-MS23		AMR-MS-MS23-FD		AMR-MS-MS24		AMR-MS-MS25		AMR-MS-MS26		RPD AMR-MS-MS23		
Sample Date				**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/10/2009**	**Q**			
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
PCB-1221	11104-28-2	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
PCB-1232	11141-16-5	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
PCB-1242	53469-21-9	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
PCB-1248	12672-29-6	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
PCB-1254	11097-69-1	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
PCB-1260	11096-82-5	1	10	**9.5**		***11***		***690***		**0.55**		**0.69**		**15%**		
PCB-1262	37324-23-5	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
PCB-1268	11100-14-4	1	10	0.46	U	0.47	U	48	U	0.51	U	0.12	U	**--**		
Total PCBs	1336-36-3	1	10	**9.5**		***11***		***690***		**0.55**		**0.69**		**15%**		
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**CON-MS-101-0.0'**		**CON-MS-102-0.0'**		**CON-MS-103-0.0'**		**CON-MS-104-0.0'**		**CON-MS-105-0.0'**		**CON-MS-106-0.0'**		
Sample Date				**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011 11:28**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	
PCB-1221	11104-28-2	1	10	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	
PCB-1232	11141-16-5	1	10	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	
PCB-1242	53469-21-9	1	10	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	
PCB-1248	12672-29-6	1	10	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	
PCB-1254	11097-69-1	1	10	**1.6**		**3.9**		**4.7**		**1.6**		**0.5**		**0.61**		
PCB-1260	11096-82-5	1	10	**1.4**		**1.9**		**4.1**		**2.5**		**0.37**		**0.84**		
PCB-1262	37324-23-5	1	10	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	
PCB-1268	11100-14-4	1	10	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	
Total PCBs	1336-36-3	1	10	**3.0**		**5.8**		**8.8**		**4.1**		**0.87**		**1.45**		
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**CON-MS-107-0.0'**		**CON-MS-108-0.0'**		**CON-MS-110-0.0'**		**CON-MS-111-0.0'**		**CON-MS-113-0.0'**		**CON-MS-114-0.0'**		
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	0.25	U	0.5	U	0.24	U	0.25	U	0.24	U	0.24	U	
PCB-1221	11104-28-2	1	10	0.25	U	0.5	U	0.24	U	0.25	U	0.24	U	0.24	U	
PCB-1232	11141-16-5	1	10	0.25	U	0.5	U	0.24	U	0.25	U	0.24	U	0.24	U	
PCB-1242	53469-21-9	1	10	0.25	U	0.5	U	0.24	U	0.25	U	0.24	U	0.24	U	
PCB-1248	12672-29-6	1	10	0.25	U	0.5	U	0.24	U	0.25	U	0.24	U	0.24	U	
PCB-1254	11097-69-1	1	10	**2.6**		**3.0**		**2.5**		**2.7**		**2.2**		**1.9**		
PCB-1260	11096-82-5	1	10	**5.9**		**4.6**		**4.6**		**5.5**		**3.9**		**5.0**		
PCB-1262	37324-23-5	1	10	0.25	U	0.5	U	0.24	U	0.25	U	0.24	U	0.24	U	
PCB-1268	11100-14-4	1	10	0.25	U	0.5	U	0.24	U	0.25	U	0.24	U	0.24	U	
Total PCBs	1336-36-3	1	10	**8.5**		**7.6**		**7.1**		**8.2**		**6.1**		**6.9**		
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**CON-MS-115-0.0'**		**CON-MS-116-0.0'**		**CON-MS-117-0.0'**		**CON-MS-118-0.0'**		**CON-MS-119-0.0'**		**CON-MS-120-0.0'**		**RPD CON-MS-120-0.0'**
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	0.24	U	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U	**--**
PCB-1221	11104-28-2	1	10	0.24	U	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U	**--**
PCB-1232	11141-16-5	1	10	0.24	U	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U	**--**
PCB-1242	53469-21-9	1	10	0.24	U	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U	**--**
PCB-1248	12672-29-6	1	10	0.24	U	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U	**--**
PCB-1254	11097-69-1	1	10	**2.0**		**4.0**		**3.8**		**3.7**		**4.0**		**3.5**		**11%**
PCB-1260	11096-82-5	1	10	**5.0**		***10***		**8.3**		**8.7**		**8.6**		**7.4**		**23%**
PCB-1262	37324-23-5	1	10	0.24	U	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U	**--**
PCB-1268	11100-14-4	1	10	0.24	U	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U	**--**
Total PCBs	1336-36-3	1	10	**7.0**		***14***		***12.1***		***12.4***		***12.6***		***10.9***		**19%**

Table B-3

Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CON-MS-120-0.0'-FD		CON-MS-121-0.0'		CON-MS-122-0.0'		CON-MS-123-0.0'		CON-MS-124-0.0'		CON-MS-125-0.0'	
Sample Date	CAS#			7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q
		(mg/Kg)	(mg/Kg)												
PCB-1016	12674-11-2	1	10	0.24	U	0.5	U	0.24	U	0.26	U	0.25	U	0.24	U
PCB-1221	11104-28-2	1	10	0.24	U	0.5	U	0.24	U	0.26	U	0.25	U	0.24	U
PCB-1232	11141-16-5	1	10	0.24	U	0.5	U	0.24	U	0.26	U	0.25	U	0.24	U
PCB-1242	53469-21-9	1	10	0.24	U	0.5	U	0.24	U	0.26	U	0.25	U	0.24	U
PCB-1248	12672-29-6	1	10	0.24	U	0.5	U	0.24	U	0.26	U	0.25	U	0.24	U
PCB-1254	11097-69-1	1	10	**3.9**		**7.6**		**2.4**		**1.1**		***18***		**0.40**	
PCB-1260	11096-82-5	1	10	**9.3**		***17***		**6.2**		**1.0**		**4.3**		0.24	U
PCB-1262	37324-23-5	1	10	0.24	U	0.5	U	0.24	U	0.26	U	0.25	U	0.24	U
PCB-1268	11100-14-4	1	10	0.24	U	0.5	U	0.24	U	0.26	U	0.25	U	0.24	U
Total PCBs	1336-36-3	1	10	***13.2***		***24.6***		**8.6**		**2.1**		***22.3***		**0.40**	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CON-MS-126-0.0'		CON-MS-127-0.0'		CON-MS-127-0.0'-FD		CON-MS-129-0.0'		CON-MS-130-0.0'		CON-MS-131-0.0'		RPD CON-MS-127-0.0'
Sample Date	CAS#			7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	
		(mg/Kg)	(mg/Kg)													
PCB-1016	12674-11-2	1	10	0.25	U	0.51	U	0.47	U	0.24	U	0.24	U	0.25	U	--
PCB-1221	11104-28-2	1	10	0.25	U	0.51	U	0.47	U	0.24	U	0.24	U	0.25	U	--
PCB-1232	11141-16-5	1	10	0.25	U	0.51	U	0.47	U	0.24	U	0.24	U	0.25	U	--
PCB-1242	53469-21-9	1	10	0.25	U	0.51	U	0.47	U	0.24	U	0.24	U	0.25	U	--
PCB-1248	12672-29-6	1	10	0.25	U	0.51	U	0.47	U	0.24	U	0.24	U	0.25	U	--
PCB-1254	11097-69-1	1	10	***14***		***45***		***66***		**3.3**		**4.1**		**2.5**		**38%**
PCB-1260	11096-82-5	1	10	**5.3**		**9.0**		***11***		**6.0**		**5.9**		**8.1**		**20%**
PCB-1262	37324-23-5	1	10	0.25	U	0.51	U	0.47	U	0.24	U	0.24	U	0.25	U	--
PCB-1268	11100-14-4	1	10	0.25	U	0.51	U	0.47	U	0.24	U	0.24	U	0.25	U	--
Total PCBs	1336-36-3	1	10	***19.3***		***54***		***77***		**9.3**		***10***		***10.6***		**35%**

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CON-MS-132-0.0'		CON-MS-135-0.0'		CON-MS-136-0.0'		CON-MS-137-0.0'		CON-MS-138-0.0'		CON-MS-140-0.0'	
Sample Date	CAS#			7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q
		(mg/Kg)	(mg/Kg)												
PCB-1016	12674-11-2	1	10	0.50	U	1.3	U	0.24	U	2.5	U	1.2	U	0.25	U
PCB-1221	11104-28-2	1	10	0.50	U	1.3	U	0.24	U	2.5	U	1.2	U	0.25	U
PCB-1232	11141-16-5	1	10	0.50	U	1.3	U	0.24	U	2.5	U	1.2	U	0.25	U
PCB-1242	53469-21-9	1	10	0.50	U	1.3	U	0.24	U	2.5	U	1.2	U	0.25	U
PCB-1248	12672-29-6	1	10	0.50	U	1.3	U	0.24	U	2.5	U	1.2	U	0.25	U
PCB-1254	11097-69-1	1	10	**9.9**		***19***		**3.9**		***12***		**8.6**		***13***	
PCB-1260	11096-82-5	1	10	***19***		***31***		***16***		***48***		***17***		***72***	
PCB-1262	37324-23-5	1	10	0.50	U	1.3	U	0.24	U	2.5	U	1.2	U	0.25	U
PCB-1268	11100-14-4	1	10	0.50	U	**1.4**		**1.8**		**3.7**		1.2	U	**3.0**	
Total PCBs	1336-36-3	1	10	***28.9***		***51.4***		***21.7***		***63.7***		***25.6***		***88***	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CON-MS-141-0.0'		CON-MS-142-0.0'		CON-MS-142-0.0'-FD		CON-MS-143-0.0'		CON-MS-145-0.0'		CON-MS-146-0.0'		RPD CON-MS-142-0.0'
Sample Date	CAS#			7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	
		(mg/Kg)	(mg/Kg)													
PCB-1016	12674-11-2	1	10	4.9	U	5.0	U	5.0	U	4.9	U	5.0	U	24	U	--
PCB-1221	11104-28-2	1	10	4.9	U	5.0	U	5.0	U	4.9	U	5.0	U	24	U	--
PCB-1232	11141-16-5	1	10	4.9	U	5.0	U	5.0	U	4.9	U	5.0	U	24	U	--
PCB-1242	53469-21-9	1	10	4.9	U	5.0	U	5.0	U	4.9	U	5.0	U	24	U	--
PCB-1248	12672-29-6	1	10	4.9	U	5.0	U	5.0	U	4.9	U	5.0	U	24	U	--
PCB-1254	11097-69-1	1	10	***29***		***20***		***26***		***26***		***14***		***150***		**26%**
PCB-1260	11096-82-5	1	10	***170***		***130***		***160***		***160***		***110***		***970***		**21%**
PCB-1262	37324-23-5	1	10	4.9	U	5.0	U	5.0	U	4.9	U	5.0	U	24	U	--
PCB-1268	11100-14-4	1	10	***19.00***		***14***		***19***		***12***		***12***		***130***		--
Total PCBs	1336-36-3	1	10	***218***		***164***		***205***		***198***		***136***		***1250***		**22%**

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CON-MS-147-0.0'		CON-MS-149-0.0'		CON-MS-150-0.0'		CON-MS-151-0.0'		CON-MS-152-0.0'		CON-MS-153-0.0'	
Sample Date	CAS#			7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q	7/20/2011	Q
		(mg/Kg)	(mg/Kg)												
PCB-1016	12674-11-2	1	10	5.1	U	0.25	U	0.25	U	4.9	U	4.9	U	0.25	U
PCB-1221	11104-28-2	1	10	5.1	U	0.25	U	0.25	U	4.9	U	4.9	U	0.25	U
PCB-1232	11141-16-5	1	10	5.1	U	0.25	U	0.25	U	4.9	U	4.9	U	0.25	U
PCB-1242	53469-21-9	1	10	5.1	U	0.25	U	0.25	U	4.9	U	4.9	U	0.25	U
PCB-1248	12672-29-6	1	10	5.1	U	0.25	U	0.25	U	4.9	U	4.9	U	0.25	U
PCB-1254	11097-69-1	1	10	***22***		**2.4**		**4.5**		***15***		***32***		**2.2**	
PCB-1260	11096-82-5	1	10	***88***		***30***		***62***		***110***		***190***		**4.8**	
PCB-1262	37324-23-5	1	10	5.1	U	0.25	U	0.25	U	4.9	U	4.9	U	0.25	U
PCB-1268	11100-14-4	1	10	**5.20**		**2.2**		**4.4**		***12***		***12***		0.3	U
Total PCBs	1336-36-3	1	10	***115.2***		***34.6***		***70.9***		***137***		***234***		**7.0**	

Table B-3
Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CON-MS-154-.0.0'		CON-MS-155-0.0'		CON-MS-156-0.0'	
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**						
PCB-1016	12674-11-2	1	10	0.50	U	0.24	U	0.25	U
PCB-1221	11104-28-2	1	10	0.50	U	0.24	U	0.25	U
PCB-1232	11141-16-5	1	10	0.50	U	0.24	U	0.25	U
PCB-1242	53469-21-9	1	10	0.50	U	0.24	U	0.25	U
PCB-1248	12672-29-6	1	10	0.50	U	0.24	U	0.25	U
PCB-1254	11097-69-1	1	10	**4.2**		**1.0**		**3.0**	
PCB-1260	11096-82-5	1	10	***13***		**3.8**		**6.3**	
PCB-1262	37324-23-5	1	10	0.50	U	0.24	U	0.25	U
PCB-1268	11100-14-4	1	10	0.50	U	0.24	U	0.25	U
Total PCBs	1336-36-3	1	10	***17.2***		**4.8**		**9.3**	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-157-0.5		CN-158-0.5		CN-159-0.5		CN-160-0.5		CN-161-0.5		CN-162-0.5	
Sample Date				**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	3.5	U	0.56	U	0.49	U	5.2	U	5.0	U	5.1	U
PCB-1221	11104-28-2	1	10	3.5	U	0.56	U	0.49	U	5.2	U	5.0	U	5.1	U
PCB-1232	11141-16-5	1	10	3.5	U	0.56	U	0.49	U	5.2	U	5.0	U	5.1	U
PCB-1242	53469-21-9	1	10	3.5	U	0.56	U	0.49	U	5.2	U	5.0	U	5.1	U
PCB-1248	12672-29-6	1	10	3.5	U	0.56	U	0.49	U	5.2	U	5.0	U	5.1	U
PCB-1254	11097-69-1	1	10	3.5	U	*	*	*	*	5.2	U	5.0	U	5.1	U
PCB-1260	11096-82-5	1	10	**6.1**		**3.1**	*	**2.3**	*	***10***		**9.5**		**6.8**	
PCB-1262	37324-23-5	1	10	3.5	U	0.56	U	0.49	U	5.2	U	5.0	U	5.1	U
PCB-1268	11100-14-4	1	10	3.5	U	0.56	U	0.49	U	5.2	U	5.0	U	5.1	U
Total PCBs	1336-36-3	1	10	**6.1**		**3.1**		**2.3**		***10***		**9.5**		**6.8**	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-163-0.5		CN-164-0.5		CN-165-0.5		CN-166-0.5		CN-167-0.5		CN-168-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	5.6	U	4.9	U	2.4	U	4.8	U	5.0	U	1.2	U
PCB-1221	11104-28-2	1	10	5.6	U	4.9	U	2.4	U	4.8	U	5.0	U	1.2	U
PCB-1232	11141-16-5	1	10	5.6	U	4.9	U	2.4	U	4.8	U	5.0	U	1.2	U
PCB-1242	53469-21-9	1	10	5.6	U	4.9	U	2.4	U	4.8	U	5.0	U	1.2	U
PCB-1248	12672-29-6	1	10	5.6	U	4.9	U	2.4	U	4.8	U	5.0	U	1.2	U
PCB-1254	11097-69-1	1	10	5.6	U	4.9	U	*	*	4.8	U	5.0	U	*	*
PCB-1260	11096-82-5	1	10	**6.3**		**6.9**		***11***	*	**5.4**		**8.1**		**6.0**	*
PCB-1262	37324-23-5	1	10	5.6	U	4.9	U	2.4	U	4.8	U	5.0	U	1.2	U
PCB-1268	11100-14-4	1	10	5.6	U	4.9	U	2.4	U	4.8	U	5.0	U	1.2	U
Total PCBs	1336-36-3	1	10	**6.3**		**6.9**		***11***		**5.4**		**8.1**		**6.0**	

Table B-3
Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-169-0.5		CN-170-0.5		CN-171-0.5		CN-172-0.5		CN-172-0.5-FD		CN-173-0.5		RPD - CN-172-0.5
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	2.5	U	2.4	U	4.8	U	2.5	U	0.71	U	0.48	U	--
PCB-1221	11104-28-2	1	10	2.5	U	2.4	U	4.8	U	2.5	U	0.71	U	0.48	U	--
PCB-1232	11141-16-5	1	10	2.5	U	2.4	U	4.8	U	2.5	U	0.71	U	0.48	U	--
PCB-1242	53469-21-9	1	10	2.5	U	2.4	U	4.8	U	2.5	U	0.71	U	0.48	U	--
PCB-1248	12672-29-6	1	10	2.5	U	2.4	U	4.8	U	2.5	U	0.71	U	0.48	U	--
PCB-1254	11097-69-1	1	10	*	*	*	*	4.8	U	2.5	U	*	*	*	*	--
PCB-1260	11096-82-5	1	10	**9.8**	*	**6.3**	*	**9.0**		**8.5**		**8.3**	*	**3.1**	*	**2%**
PCB-1262	37324-23-5	1	10	2.5	U	2.4	U	4.8	U	2.5	U	0.71	U	0.48	U	--
PCB-1268	11100-14-4	1	10	2.5	U	2.4	U	4.8	U	2.5	U	0.71	U	0.48	U	--
Total PCBs	1336-36-3	1	10	**9.8**		**6.3**		**9.0**		**8.5**		**8.3**		**3.1**		**2%**

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-174-0.5		CN-175-0.5		CN-176-0.5		CN-177-0.5		CN-178-0.5		CN-179-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.25	U	0.68	U	0.58	U	2.2	U	4.8	U	0.048	U
PCB-1221	11104-28-2	1	10	0.25	U	0.68	U	0.58	U	2.2	U	4.8	U	0.048	U
PCB-1232	11141-16-5	1	10	0.25	U	0.68	U	0.58	U	2.2	U	4.8	U	0.048	U
PCB-1242	53469-21-9	1	10	0.25	U	0.68	U	0.58	U	2.2	U	4.8	U	0.048	U
PCB-1248	12672-29-6	1	10	0.25	U	0.68	U	0.58	U	2.2	U	4.8	U	0.048	U
PCB-1254	11097-69-1	1	10	*	*	*	*	*	*	2.2	U	4.8	U	0.048	U
PCB-1260	11096-82-5	1	10	**2.7**	*	**5.3**	*	**5.0**	*	**9.3**		**4.9**		**0.14**	
PCB-1262	37324-23-5	1	10	0.25	U	0.68	U	0.58	U	2.2	U	4.8	U	0.048	U
PCB-1268	11100-14-4	1	10	0.25	U	0.68	U	0.58	U	2.2	U	4.8	U	0.048	U
Total PCBs	1336-36-3	1	10	**2.7**		**5.3**		**5.0**		**9.3**		**4.9**		**0.14**	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-180-0.5		CN-181-0.5		CN-182-0.5		CN-183-0.5		CN-184-0.5		CN-185-0.5		MS-152-7.0	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**														
PCB-1016	12674-11-2	1	10	0.22	U	4.2	U	4.0	U	3.3	U	0.53	U	0.66	U	7.7	U
PCB-1221	11104-28-2	1	10	0.22	U	4.2	U	4.0	U	3.3	U	0.53	U	0.66	U	7.7	U
PCB-1232	11141-16-5	1	10	0.22	U	4.2	U	4.0	U	3.3	U	0.53	U	0.66	U	7.7	U
PCB-1242	53469-21-9	1	10	0.22	U	4.2	U	4.0	U	3.3	U	0.53	U	0.66	U	7.7	U
PCB-1248	12672-29-6	1	10	0.22	U	4.2	U	4.0	U	3.3	U	0.53	U	0.66	U	7.7	U
PCB-1254	11097-69-1	1	10	*	*	4.2	U	4.0	U	*	*	*	*	*	*	7.7	U
PCB-1260	11096-82-5	1	10	**0.92**	*	**6.8**		**8.0**		***37***	*	**5.4**	*	**4.8**	*	***12***	
PCB-1262	37324-23-5	1	10	0.22	U	4.2	U	4.0	U	3.3	U	0.53	U	0.66	U	7.7	U
PCB-1268	11100-14-4	1	10	0.22	U	4.2	U	4.0	U	3.3	U	0.53	U	0.66	U	7.7	U
Total PCBs	1336-36-3	1	10	**0.92**		**6.8**		**8.0**		***37***		**5.4**		**4.8**		***12***	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-186-0.5		CN-187-0.5		CN-188-0.5		CN-189-0.5		CN-190-0.5		CN-191-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	7.5	U	5.3	U	4.6	U	5.5	U	6.1	U	5.5	U
PCB-1221	11104-28-2	1	10	7.5	U	5.3	U	4.6	U	5.5	U	6.1	U	5.5	U
PCB-1232	11141-16-5	1	10	7.5	U	5.3	U	4.6	U	5.5	U	6.1	U	5.5	U
PCB-1242	53469-21-9	1	10	7.5	U	5.3	U	4.6	U	5.5	U	6.1	U	5.5	U
PCB-1248	12672-29-6	1	10	7.5	U	5.3	U	4.6	U	5.5	U	6.1	U	5.5	U
PCB-1254	11097-69-1	1	10	7.5	U	5.3	U	4.6	U	5.5	U	*	*	*	*
PCB-1260	11096-82-5	1	10	**8.8**		***11***		***12***		**5.8**		***11***	*	***11***	*
PCB-1262	37324-23-5	1	10	7.5	U	5.3	U	4.6	U	5.5	U	6.1	U	5.5	U
PCB-1268	11100-14-4	1	10	7.5	U	5.3	U	4.6	U	5.5	U	6.1	U	5.5	U
Total PCBs	1336-36-3	1	10	**8.8**		***11***		***12***		**5.8**		***11***		***11***	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-192-0.5		CN-192-0.5-FD		CN-193-0.5		CN-194-0.5		CN-195-0.5		CN-196-0.5		RPD CN-192-0.5
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	3.2	U	5.0	U	0.33	U	5.4	U	0.61	U	0.057	U	--
PCB-1221	11104-28-2	1	10	3.2	U	5.0	U	0.33	U	5.4	U	0.61	U	0.057	U	--
PCB-1232	11141-16-5	1	10	3.2	U	5.0	U	0.33	U	5.4	U	0.61	U	0.057	U	--
PCB-1242	53469-21-9	1	10	3.2	U	5.0	U	0.33	U	5.4	U	0.61	U	0.057	U	--
PCB-1248	12672-29-6	1	10	3.2	U	5.0	U	0.33	U	5.4	U	0.61	U	0.057	U	--
PCB-1254	11097-69-1	1	10	*	*	5.0	U	*	*	5.4	U	0.61	U	*	*	--
PCB-1260	11096-82-5	1	10	***18***	*	***11***		**1.5**	*	**9.4**		**1.1**		**0.68**	*	**48%**
PCB-1262	37324-23-5	1	10	3.2	U	5.0	U	0.33	U	5.4	U	0.61	U	0.057	U	--
PCB-1268	11100-14-4	1	10	3.2	U	5.0	U	0.33	U	5.4	U	0.61	U	0.057	U	--
Total PCBs	1336-36-3	1	10	***18***		***11***		**1.5**		**9.4**		**1.1**		**0.68**		**48%**

Table B-3
Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-197-0.5		CN-198-0.5		CN-199-0.5		CN-200-0.5		CN-201-0.5		CN-202-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	3.2	U	6.4	U	0.38	U	5.7	U	0.52	U	4.7	U
PCB-1221	11104-28-2	1	10	3.2	U	6.4	U	0.38	U	5.7	U	0.52	U	4.7	U
PCB-1232	11141-16-5	1	10	3.2	U	6.4	U	0.38	U	5.7	U	0.52	U	4.7	U
PCB-1242	53469-21-9	1	10	3.2	U	6.4	U	0.38	U	5.7	U	0.52	U	4.7	U
PCB-1248	12672-29-6	1	10	3.2	U	6.4	U	0.38	U	5.7	U	0.52	U	4.7	U
PCB-1254	11097-69-1	1	10	*	*	*	*	*	*	*	*	*	*	*	*
PCB-1260	11096-82-5	1	10	***13***	*	***41***	*	**2.7**	*	***21***	*	**2.5**	*	***21***	*
PCB-1262	37324-23-5	1	10	3.2	U	6.4	U	0.38	U	5.7	U	0.52	U	4.7	U
PCB-1268	11100-14-4	1	10	3.2	U	6.4	U	0.38	U	5.7	U	0.52	U	4.7	U
Total PCBs	1336-36-3	1	10	***13***		***41***		**2.7**		***21***		**2.5**		***21***	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-203-0.5		CN-204-0.5		CN-205-0.5		CN-206-0.5		CN-207-0.5		CN-208-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
PCB-1221	11104-28-2	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
PCB-1232	11141-16-5	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
PCB-1242	53469-21-9	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
PCB-1248	12672-29-6	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
PCB-1254	11097-69-1	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
PCB-1260	11096-82-5	1	10	**4.4**		***10***		**0.14**		**6.3**		***15***		***20***	
PCB-1262	37324-23-5	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
PCB-1268	11100-14-4	1	10	4.4	U	5.1	U	0.045	U	4.3	U	5.1	U	4.8	U
Total PCBs	1336-36-3	1	10	**4.4**		***10***		**0.14**		**6.3**		***15***		***20***	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-209-0.5		CN-210-0.5		CN-211-0.5		CN-212-0.5		CN-213-0.5		CN-213-0.5-FD		RPD CN-213-0.5
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	5.1	U	6.1	U	4.5	U	5.2	U	4.7	U	5.1	U	--
PCB-1221	11104-28-2	1	10	5.1	U	6.1	U	4.5	U	5.2	U	4.7	U	5.1	U	--
PCB-1232	11141-16-5	1	10	5.1	U	6.1	U	4.5	U	5.2	U	4.7	U	5.1	U	--
PCB-1242	53469-21-9	1	10	5.1	U	6.1	U	4.5	U	5.2	U	4.7	U	5.1	U	--
PCB-1248	12672-29-6	1	10	5.1	U	6.1	U	4.5	U	5.2	U	4.7	U	5.1	U	--
PCB-1254	11097-69-1	1	10	*	*	*	*	4.5	U	5.2	U	*	*	*	*	--
PCB-1260	11096-82-5	1	10	***24***	*	***62***	*	**9.7**		**8.2**		***46***	*	***50***	*	**8%**
PCB-1262	37324-23-5	1	10	5.1	U	6.1	U	4.5	U	5.2	U	4.7	U	5.1	U	--
PCB-1268	11100-14-4	1	10	5.1	U	6.1	U	4.5	U	5.2	U	4.7	U	5.1	U	--
Total PCBs	1336-36-3	1	10	***24***		***62***		**9.7**		**8.2**		***46***		***50***		**8%**

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-214-0.5		CN-215-0.5		CN-216-0.5		CN-217-0.5		CN-218-0.5		CN-219-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	4.3	U	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
PCB-1221	11104-28-2	1	10	4.3	U	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
PCB-1232	11141-16-5	1	10	4.3	U	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
PCB-1242	53469-21-9	1	10	4.3	U	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
PCB-1248	12672-29-6	1	10	4.3	U	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
PCB-1254	11097-69-1	1	10	*	*	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
PCB-1260	11096-82-5	1	10	***26***	*	**0.49**		***10***		***11***		***12***		***17***	
PCB-1262	37324-23-5	1	10	4.3	U	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
PCB-1268	11100-14-4	1	10	4.3	U	0.049	U	4.8	U	2.3	U	2.4	U	4.7	U
Total PCBs	1336-36-3	1	10	***26***		**0.49**		***10***		***11***		***12***		***17***	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-220-0.5		CN-221-0.5		CN-222-0.5		CN-223-0.5		CN-224-0.5		CN-225-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
PCB-1221	11104-28-2	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
PCB-1232	11141-16-5	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
PCB-1242	53469-21-9	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
PCB-1248	12672-29-6	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
PCB-1254	11097-69-1	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
PCB-1260	11096-82-5	1	10	***18***		***31***		***35***		***55***		***18***		***15***	
PCB-1262	37324-23-5	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
PCB-1268	11100-14-4	1	10	6.3	U	4.5	U	6.0	U	6.8	U	6.3	U	6.4	U
Total PCBs	1336-36-3	1	10	***18***		***31***		***35***		***55***		***18***		***15***	

Table B-3
Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-226-0.5		CN-227-0.5		CN-228-0.5		CN-229-0.5		CN-230-0.5		CN-231-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	6.9	U	6.2	U	0.62	U	3.6	U	5.4	U	1.8	U
PCB-1221	11104-28-2	1	10	6.9	U	6.2	U	0.62	U	3.6	U	5.4	U	1.8	U
PCB-1232	11141-16-5	1	10	6.9	U	6.2	U	0.62	U	3.6	U	5.4	U	1.8	U
PCB-1242	53469-21-9	1	10	6.9	U	6.2	U	0.62	U	3.6	U	5.4	U	1.8	U
PCB-1248	12672-29-6	1	10	6.9	U	6.2	U	0.62	U	3.6	U	5.4	U	1.8	U
PCB-1254	11097-69-1	1	10	6.9	U	6.2	U	*	*	3.6	U	5.4	U	1.8	U
PCB-1260	11096-82-5	1	10	***12***		***11***		**5.7**	*	**6.7**		**7.6**		**5.1**	
PCB-1262	37324-23-5	1	10	6.9	U	6.2	U	0.62	U	3.6	U	5.4	U	1.8	U
PCB-1268	11100-14-4	1	10	6.9	U	6.2	U	0.62	U	3.6	U	5.4	U	1.8	U
Total PCBs	1336-36-3	1	10	***12***		***11***		**5.7**		**6.7**		**7.6**		**5.1**	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-232-0.5		CN-233-0.5		CN-234-0.5		CN-235-0.5		CN-236-0.5		CN-236-0.5-FD		RPD - CN-236-0.5
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	0.66	U	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
PCB-1221	11104-28-2	1	10	0.66	U	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
PCB-1232	11141-16-5	1	10	0.66	U	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
PCB-1242	53469-21-9	1	10	0.66	U	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
PCB-1248	12672-29-6	1	10	0.66	U	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
PCB-1254	11097-69-1	1	10	*	*	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
PCB-1260	11096-82-5	1	10	**3.5**	*	**3.2**		**8.4**		***14***		***38***		***37***		**3%**
PCB-1262	37324-23-5	1	10	0.66	U	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
PCB-1268	11100-14-4	1	10	0.66	U	3.1	U	6.8	U	3.0	U	7.0	U	7.0	U	--
Total PCBs	1336-36-3	1	10	**3.5**		**3.2**		**8.4**		***14***		***38***		***37***		**3%**

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-237-0.5		CN-238-0.5		CN-239-0.5		CN-240-0.5		CN-241-0.5		CN-242-0.5	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
PCB-1221	11104-28-2	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
PCB-1232	11141-16-5	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
PCB-1242	53469-21-9	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
PCB-1248	12672-29-6	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
PCB-1254	11097-69-1	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
PCB-1260	11096-82-5	1	10	***24***		***13***		***11***		**5.4**		**6.2**		**7.8**	
PCB-1262	37324-23-5	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
PCB-1268	11100-14-4	1	10	6.2	U	3.6	U	6.9	U	3.6	U	4.7	U	7.4	U
Total PCBs	1336-36-3	1	10	***24***		***13***		***11***		**5.4**		**6.2**		**7.8**	

Sample ID		TSCA: Solid Porous Media High Occupancy - No Cap	TSCA: Solid Porous Media High Occupancy - With CAP	CN-243-0.5		CN-244-0.5		CN-245-0.5		CN-246-0.5		CN-247-0.5		CN-247-0.5-FD		RPD - CN-247-0.5
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	1	10	0.71	U	6.5	U	1.7	U	0.36	U	6.8	U	0.60	U	--
PCB-1221	11104-28-2	1	10	0.71	U	6.5	U	1.7	U	0.36	U	6.8	U	0.60	U	--
PCB-1232	11141-16-5	1	10	0.71	U	6.5	U	1.7	U	0.36	U	6.8	U	0.60	U	--
PCB-1242	53469-21-9	1	10	0.71	U	6.5	U	1.7	U	0.36	U	6.8	U	0.60	U	--
PCB-1248	12672-29-6	1	10	0.71	U	6.5	U	1.7	U	0.36	U	6.8	U	0.60	U	--
PCB-1254	11097-69-1	1	10	*	*	6.5	U	1.7	U	*	*	6.8	U	*	*	--
PCB-1260	11096-82-5	1	10	**2.7**	*	**8.8**		**5.3**		**4.0**	*	***18***		**5.1**	*	**112%**
PCB-1262	37324-23-5	1	10	0.71	U	6.5	U	1.7	U	0.36	U	6.8	U	0.60	U	--
PCB-1268	11100-14-4	1	10	0.71	U	6.5	U	1.7	U	0.36	U	6.8	U	0.60	U	--
Total PCBs	1336-36-3	1	10	**2.7**		**8.8**		**5.3**		**4.0**		***18***		**5.1**		**112%**

Table B-3

Polychlorinated Biphenyl Analytical Results – Concrete and Wood Samples

Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**CN-248-0.5**		**MS-127A-0.5**		**MS-127A-3.0**		**MS-127A-13.0**		**MS-141-4.0**		**MS-141-9.0**	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.35	U	3.2	U	0.16	U	0.032	U	3.3	U	0.32	U
PCB-1221	11104-28-2	1	10	0.35	U	3.2	U	0.16	U	0.032	U	3.3	U	0.32	U
PCB-1232	11141-16-5	1	10	0.35	U	3.2	U	0.16	U	0.032	U	3.3	U	0.32	U
PCB-1242	53469-21-9	1	10	0.35	U	3.2	U	0.16	U	0.032	U	3.3	U	0.32	U
PCB-1248	12672-29-6	1	10	0.35	U	3.2	U	0.16	U	0.032	U	3.3	U	0.32	U
PCB-1254	11097-69-1	1	10	*	*	*	*	*	*	*	*	3.3	U	0.32	U
PCB-1260	11096-82-5	1	10	**2.2**	*	***23***	*	**1.3**	*	**0.21**	*	**7.7**		**3.6**	
PCB-1262	37324-23-5	1	10	0.35	U	3.2	U	0.16	U	0.032	U	3.3	U	0.32	U
PCB-1268	11100-14-4	1	10	0.35	U	3.2	U	0.16	U	0.032	U	3.3	U	0.32	U
Total PCBs	1336-36-3	1	10	**2.2**		***23***		**1.3**		**0.21**		**7.7**		**3.6**	

Key:

TSCA: Toxic Substance Control Act Walkaway Criteria for Porous Media
in High Occupancy Settings
mg/kg - milligrams per kilogram (parts per million)
U - Analyte not setected, laboratory reporting limit provided
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of TSCA: Solid Porous Media High Occupancy Walkaway
Italic results indicate an exceedence of the TSCA: Solid Porous Media High Occupancy With A Cap
* - For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no longer
RPD - Relative percent difference

Table B-2
Polychlorinated Biphenyl Analytical Results – Masonry Samples

Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-157-3.0'**		**MAS-MS-158-3.0'**		**MAS-MS-158-6.0'**		**MAS-MS-159-3.0'**		**MAS-MS-160-3.0'**		**MAS-MS-160-6.0'**	
Sample Date	**CAS#**			**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011 12:37**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.047	U	0.095	U	0.047	U	0.25	U	0.096	U	0.047	U
PCB-1221	11104-28-2	1	10	0.047	U	0.095	U	0.047	U	0.25	U	0.096	U	0.047	U
PCB-1232	11141-16-5	1	10	0.047	U	0.095	U	0.047	U	0.25	U	0.096	U	0.047	U
PCB-1242	53469-21-9	1	10	0.047	U	0.095	U	0.047	U	0.25	U	0.096	U	0.047	U
PCB-1248	12672-29-6	1	10	0.047	U	0.095	U	0.047	U	0.25	U	0.096	U	0.047	U
PCB-1254	11097-69-1	1	10	**0.70**		**1.4**		**0.69**		**3.3**		**1.4**		**0.35**	
PCB-1260	11096-82-5	1	10	**0.77**		**1.6**		**1.6**		**2.0**		**1.9**		**0.20**	
PCB-1262	37324-23-5	1	10	0.047	U	0.095	U	0.047	U	0.25	U	0.096	U	0.047	U
PCB-1268	11100-14-4	1	10	0.047	U	0.095	U	0.047	U	0.25	U	0.096	U	0.047	U
Total PCBs	1336-36-3	1	10	**1.47**		**3.0**		**2.29**		**5.3**		**3.3**		**0.55**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-161-3.0'**		**MAS-MS-162-3.0'**		**MAS-MS-162-6.0'**		**MAS-MS-163-3.0'**		**MAS-MS-164-3.0'**		**MAS-MS-164-6.0'**	
Sample Date	**CAS#**			**7/19/2011 12:42**	**Q**	**7/19/2011 12:45**	**Q**	**7/19/2011 12:48**	**Q**	**7/19/2011 13:00**	**Q**	**7/19/2011 13:05**	**Q**	**7/19/2011 13:08**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.048	U	0.049	U	0.048	U	0.053	U	0.048	U	0.048	U
PCB-1221	11104-28-2	1	10	0.048	U	0.049	U	0.048	U	0.053	U	0.048	U	0.048	U
PCB-1232	11141-16-5	1	10	0.048	U	0.049	U	0.048	U	0.053	U	0.048	U	0.048	U
PCB-1242	53469-21-9	1	10	0.048	U	0.049	U	0.048	U	0.053	U	0.048	U	0.048	U
PCB-1248	12672-29-6	1	10	0.048	U	0.049	U	0.048	U	0.053	U	0.048	U	0.048	U
PCB-1254	11097-69-1	1	10	**2.9**		**1.5**		**0.64**		**2.1**		**1.6**		**0.82**	
PCB-1260	11096-82-5	1	10	**1.2**		**1.6**		**1.2**		**0.94**		**1.0**		**1.4**	
PCB-1262	37324-23-5	1	10	0.048	U	0.049	U	0.048	U	0.053	U	0.048	U	0.048	U
PCB-1268	11100-14-4	1	10	0.048	U	0.049	U	0.048	U	0.053	U	0.048	U	0.048	U
Total PCBs	1336-36-3	1	10	**4.1**		**3.1**		**1.84**		**3.04**		**2.6**		**2.22**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-165-3.0'**		**MAS-MS-166-3.0'**		**MAS-MS-166-6.0'**		**MAS-MS-167-3.0'**		**MAS-MS-168-3.0'**		**MAS-MS-168-6.0'**	
Sample Date	**CAS#**			**7/19/2011 13:12**	**Q**	**7/19/2011 13:18**	**Q**	**7/19/2011 13:40**	**Q**	**7/19/2011 13:45**	**Q**	**7/19/2011 13:49**	**Q**	**7/19/2011 13:55**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.049	U	0.25	U	0.049	U	0.050	U	0.055	U	0.099	U
PCB-1221	11104-28-2	1	10	0.049	U	0.25	U	0.049	U	0.050	U	0.055	U	0.099	U
PCB-1232	11141-16-5	1	10	0.049	U	0.25	U	0.049	U	0.050	U	0.055	U	0.099	U
PCB-1242	53469-21-9	1	10	0.049	U	0.25	U	0.049	U	0.050	U	0.055	U	0.099	U
PCB-1248	12672-29-6	1	10	0.049	U	0.25	U	0.049	U	0.050	U	0.055	U	0.099	U
PCB-1254	11097-69-1	1	10	**0.65**		**0.93**		**0.42**		**1.3**		**0.88**		**0.28**	
PCB-1260	11096-82-5	1	10	**0.80**		**1.5**		**1.0**		**1.8**		**2.4**		**1.0**	
PCB-1262	37324-23-5	1	10	0.049	U	0.25	U	0.049	U	0.050	U	0.055	U	0.099	U
PCB-1268	11100-14-4	1	10	0.049	U	0.25	U	0.049	U	0.050	U	0.055	U	0.099	U
Total PCBs	1336-36-3	1	10	**1.45**		**2.43**		**1.42**		**3.1**		**3.28**		**1.28**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-169-3.0'**		**MAS-MS-170-3.0'**		**MAS-MS-170-3.0' FD**		**MAS-MS-170-6.0'**		**MAS-MS-171-6.0'**		**MAS-MS-172-3.0'**	
Sample Date	**CAS#**			**7/19/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.049	U	2.5	U	2.5	U	0.050	U	0.050	U	0.050	U
PCB-1221	11104-28-2	1	10	0.049	U	2.5	U	2.5	U	0.050	U	0.050	U	0.050	U
PCB-1232	11141-16-5	1	10	0.049	U	2.5	U	2.5	U	0.050	U	0.050	U	0.050	U
PCB-1242	53469-21-9	1	10	0.049	U	2.5	U	2.5	U	0.050	U	0.050	U	0.050	U
PCB-1248	12672-29-6	1	10	0.049	U	2.5	U	2.5	U	0.050	U	0.050	U	0.050	U
PCB-1254	11097-69-1	1	10	**0.86**		**14**		**11**		**0.41**		**0.99**		**0.82**	
PCB-1260	11096-82-5	1	10	**3.3**		**72**		**55**		**2.3**		**3.4**		**5.3**	
PCB-1262	37324-23-5	1	10	0.049	U	2.5	U	2.5	U	0.050	U	0.050	U	0.050	U
PCB-1268	11100-14-4	1	10	0.049	U	**9.9**		**8.4**		0.050	U	0.050	U	0.050	U
Total PCBs	1336-36-3	1	10	**4.16**		**95.9**		**74.4**		**2.71**		**4.39**		**6.12**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-172-6.0'**		**MAS-MS-173-3.0'**		**MAS-MS-174-3.0'**		**MAS-MS-174-6.0'**		**MAS-MS-175-6.0'**		**MAS-MS-176-3.0'**	
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.050	U	0.49	U	0.10	U	0.050	U	0.049	U	0.050	U
PCB-1221	11104-28-2	1	10	0.050	U	0.49	U	0.10	U	0.050	U	0.049	U	0.050	U
PCB-1232	11141-16-5	1	10	0.050	U	0.49	U	0.10	U	0.050	U	0.049	U	0.050	U
PCB-1242	53469-21-9	1	10	0.050	U	0.49	U	0.10	U	0.050	U	0.049	U	0.050	U
PCB-1248	12672-29-6	1	10	0.050	U	0.49	U	0.10	U	0.050	U	0.049	U	0.050	U
PCB-1254	11097-69-1	1	10	**0.56**		**2.6**		**1.9**		**0.94**		**0.72**		**2.6**	
PCB-1260	11096-82-5	1	10	**2.7**		**12**		**2.7**		**1.6**		**1.3**		**1.1**	
PCB-1262	37324-23-5	1	10	0.050	U	0.49	U	0.10	U	0.050	U	0.049	U	0.050	U
PCB-1268	11100-14-4	1	10	0.050	U	0.49	U	0.10	U	0.050	U	0.049	U	0.050	U
Total PCBs	1336-36-3	1	10	**3.26**		**14.6**		**4.6**		**2.54**		**2.02**		**3.7**	

Table B-2
Polychlorinated Biphenyl Analytical Results – Masonry Samples

Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-176-6.0'**		**MAS-MS-177-6.0'**		**MAS-MS-178-3.0'**		**MAS-MS-178-6.0'**		**MAS-MS-179-6.0'**		**MAS-MS-181-3.0'**	
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.050	U	0.050	U	0.049	U	0.050	U	0.049	U	0.050	U
PCB-1221	11104-28-2	1	10	0.050	U	0.050	U	0.049	U	0.050	U	0.049	U	0.050	U
PCB-1232	11141-16-5	1	10	0.050	U	0.050	U	0.049	U	0.050	U	0.049	U	0.050	U
PCB-1242	53469-21-9	1	10	0.050	U	0.050	U	0.049	U	0.050	U	0.049	U	0.050	U
PCB-1248	12672-29-6	1	10	0.050	U	0.050	U	0.049	U	0.050	U	0.049	U	0.050	U
PCB-1254	11097-69-1	1	10	**1.4**		**0.90**		**1.3**		**0.96**		**4.0**		**0.94**	
PCB-1260	11096-82-5	1	10	**0.66**		**0.64**		**0.82**		**0.90**		**1.2**		**1.1**	
PCB-1262	37324-23-5	1	10	0.050	U	0.050	U	0.049	U	0.050	U	0.049	U	0.050	U
PCB-1268	11100-14-4	1	10	0.050	U	0.050	U	0.049	U	0.050	U	**0.049**	U	0.050	U
Total PCBs	1336-36-3	1	10	**2.06**		**1.54**		**2.12**		**1.86**		**5.2**		**2.04**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-182-3.0'**		**MAS-MS-182-6.0'**		**MAS-MS-182-6.0' FD**		**MAS-MS-183-3.0'**		**MAS-MS-184-3.0'**		**MAS-MS-184-6.0'**	
Sample Date	**CAS#**			**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.050	U	0.05	U	0.049	U	0.050	U	0.050	U	0.050	U
PCB-1221	11104-28-2	1	10	0.050	U	0.05	U	0.049	U	0.050	U	0.050	U	0.050	U
PCB-1232	11141-16-5	1	10	0.050	U	0.05	U	0.049	U	0.050	U	0.050	U	0.050	U
PCB-1242	53469-21-9	1	10	0.050	U	0.05	U	0.049	U	0.050	U	0.050	U	0.050	U
PCB-1248	12672-29-6	1	10	0.050	U	0.05	U	0.049	U	0.050	U	0.050	U	0.050	U
PCB-1254	11097-69-1	1	10	**0.58**		**0.79**		**0.67**		**1.4**		**0.99**		**0.64**	
PCB-1260	11096-82-5	1	10	**0.47**		**0.69**		**0.64**		**1.5**		**1.2**		**0.91**	
PCB-1262	37324-23-5	1	10	0.050	U	0.05	U	0.049	U	0.050	U	0.050	U	0.050	U
PCB-1268	11100-14-4	1	10	0.050	U	0.05	U	0.049	U	0.050	U	0.050	U	0.050	U
Total PCBs	1336-36-3	1	10	**1.05**		**1.48**		**1.31**		**2.9**		**2.19**		**1.55**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-185-3.0'**		**MAS-MS-186-3.0'**		**MAS-MS-186-6.0'**		**MAS-MS-187-3.0'**		**MAS-MS-188-3.0'**		**MAS-MS-188-6.0'**	
Sample Date	**CAS#**			**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.050	U	0.050	U	0.050	U	0.049	U	0.050	U	0.050	U
PCB-1221	11104-28-2	1	10	0.050	U	0.050	U	0.050	U	0.049	U	0.050	U	0.050	U
PCB-1232	11141-16-5	1	10	0.050	U	0.050	U	0.050	U	0.049	U	0.050	U	0.050	U
PCB-1242	53469-21-9	1	10	0.050	U	0.050	U	0.050	U	0.049	U	0.050	U	0.050	U
PCB-1248	12672-29-6	1	10	0.050	U	0.050	U	0.050	U	0.049	U	0.050	U	0.050	U
PCB-1254	11097-69-1	1	10	**1.9**		**0.95**		**1.8**		**0.59**		**0.66**		**0.52**	
PCB-1260	11096-82-5	1	10	**1.2**		**0.80**		**1.4**		**1.3**		**1.5**		**1**	
PCB-1262	37324-23-5	1	10	0.050	U	0.050	U	0.050	U	0.049	U	0.050	U	0.050	U
PCB-1268	11100-14-4	1	10	0.050	U	0.050	U	0.050	U	0.049	U	0.050	U	0.050	U
Total PCBs	1336-36-3	1	10	**3.1**		**1.75**		**3.2**		**1.89**		**2.16**		**1.52**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-189-3_0'**		**MAS-MS-189-6_0'**		**MAS-MS-190-3_0'**		**MAS-MS-190-6_0'**		**MAS-MS-191-3_0'**		**MAS-MS-192-3_0'**	
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.051	U	0.050	U	0.050	U	0.27	U	0.250	U	0.250	U
PCB-1221	11104-28-2	1	10	0.051	U	0.050	U	0.050	U	0.27	U	0.250	U	0.250	U
PCB-1232	11141-16-5	1	10	0.051	U	0.050	U	0.050	U	0.27	U	0.250	U	0.250	U
PCB-1242	53469-21-9	1	10	0.051	U	0.050	U	0.050	U	0.27	U	0.250	U	0.250	U
PCB-1248	12672-29-6	1	10	0.051	U	0.050	U	0.050	U	0.27	U	0.250	U	0.250	U
PCB-1254	11097-69-1	1	10	**0.97**		**0.57**		**0.20**		**0.29**		**0.27**		**0.37**	
PCB-1260	11096-82-5	1	10	**1.0**		**0.61**		**0.36**		**0.51**		**0.47**		**1.0**	
PCB-1262	37324-23-5	1	10	0.051	U	0.050	U	0.050	U	0.27	U	0.250	U	0.250	U
PCB-1268	11100-14-4	1	10	0.051	U	0.050	U	0.050	U	0.27	U	0.250	U	0.250	U
Total PCBs	1336-36-3	1	10	**1.97**		**1.18**		**0.56**		**0.80**		**0.74**		**1.37**	
Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-192-6_0'**		**MAS-MS-193-3_0'**		**MAS-MS-194-3_0'**		**MAS-MS-194-6_0'**		**MAS-MS-194-6_0' FD**		**MAS-MS-195-3_0'**	
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.310	U	0.250	U	0.250	U	0.25	U	0.250	U	0.260	U
PCB-1221	11104-28-2	1	10	0.310	U	0.250	U	0.250	U	0.25	U	0.250	U	0.260	U
PCB-1232	11141-16-5	1	10	0.310	U	0.250	U	0.250	U	0.25	U	0.250	U	0.260	U
PCB-1242	53469-21-9	1	10	0.310	U	0.250	U	0.250	U	0.25	U	0.250	U	0.260	U
PCB-1248	12672-29-6	1	10	0.310	U	0.250	U	0.250	U	0.25	U	0.250	U	0.260	U
PCB-1254	11097-69-1	1	10	**0.31**		**0.77**		**2.0**		**1.1**		**0.81**		**0.60**	
PCB-1260	11096-82-5	1	10	**0.66**		**0.61**		**1.4**		**0.89**		**0.94**		**0.29**	
PCB-1262	37324-23-5	1	10	0.310	U	0.250	U	0.250	U	0.25	U	0.250	U	0.260	U
PCB-1268	11100-14-4	1	10	0.310	U	0.250	U	0.250	U	0.25	U	0.250	U	0.260	U
Total PCBs	1336-36-3	1	10	**0.97**		**1.38**		**3.4**		**1.99**		**1.75**		**0.89**	

Table B-2
Polychlorinated Biphenyl Analytical Results – Masonry Samples

Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-195-6_0'**		**MAS-MS-196-3_0'**		**MAS-MS-197-3_0'**		**MAS-MS-197-6_0'**		**MAS-MS-198-3_0'**		**MAS-MS-199-3_0'**	
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.250	U	0.260	U	0.250	U	0.25	U	0.250	U	0.049	U
PCB-1221	11104-28-2	1	10	0.250	U	0.260	U	0.250	U	0.25	U	0.250	U	0.049	U
PCB-1232	11141-16-5	1	10	0.250	U	0.260	U	0.250	U	0.25	U	0.250	U	0.049	U
PCB-1242	53469-21-9	1	10	0.250	U	0.260	U	0.250	U	0.25	U	0.250	U	0.049	U
PCB-1248	12672-29-6	1	10	0.250	U	0.260	U	0.250	U	0.25	U	0.250	U	0.049	U
PCB-1254	11097-69-1	1	10	**0.67**		**0.66**		**0.33**		**2.6**		**0.25**	**U**	**0.054**	
PCB-1260	11096-82-5	1	10	**0.57**		**0.34**		**0.44**		**4.0**		**0.50**		**0.13**	
PCB-1262	37324-23-5	1	10	0.250	U	0.260	U	0.250	U	0.25	U	0.250	U	0.049	U
PCB-1268	11100-14-4	1	10	0.250	U	0.260	U	0.250	U	0.25	U	0.250	U	0.049	U
Total PCBs	1336-36-3	1	10	**1.24**		**1.0**		**0.77**		**6.6**		**0.75**		**0.184**	

Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MAS-MS-199-6_0'**		**MAS-MS-200-3_0'**		**MAS-MS-201-6_0'**		**MAS-MS-202-3_0'**		**MAS-MS-202-6_0'**		**MAS-MS-202-6_0' FD**	
Sample Date	**CAS#**			**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/20/2011**	**Q**	**7/21/2011**	**Q**	**7/21/2011**	**Q**	**7/21/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**												
PCB-1016	12674-11-2	1	10	0.250	U	0.260	U	0.240	U	0.25	U	0.240	U	0.250	U
PCB-1221	11104-28-2	1	10	0.250	U	0.260	U	0.240	U	0.25	U	0.240	U	0.250	U
PCB-1232	11141-16-5	1	10	0.250	U	0.260	U	0.240	U	0.25	U	0.240	U	0.250	U
PCB-1242	53469-21-9	1	10	0.250	U	0.260	U	0.240	U	0.25	U	0.240	U	0.250	U
PCB-1248	12672-29-6	1	10	0.250	U	0.260	U	0.240	U	0.25	U	0.240	U	0.250	U
PCB-1254	11097-69-1	1	10	**0.25**		**0.51**		0.240	U	**0.78**		**0.85**		**0.89**	
PCB-1260	11096-82-5	1	10	**0.48**		**1.00**		**0.48**		**1.3**		**1.4**		**1.4**	
PCB-1262	37324-23-5	1	10	0.250	U	0.260	U	0.240	U	0.25	U	0.240	U	0.250	U
PCB-1268	11100-14-4	1	10	0.250	U	0.260	U	0.240	U	0.25	U	0.240	U	0.250	U
Total PCBs	1336-36-3	1	10	**0.73**		**1.51**		**0.72**		**2.08**		**2.25**		**2.29**	

Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MS-203-5.0**		**MS-204-1.0**		**MS-205-4.0**		**MS-205-4.0-FD**	
Sample Date	**CAS#**			**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**								
PCB-1016	12674-11-2	1	10	0.067	U	0.076	U	0.064	U	0.064	U
PCB-1221	11104-28-2	1	10	0.067	U	0.076	U	0.064	U	0.064	U
PCB-1232	11141-16-5	1	10	0.067	U	0.076	U	0.064	U	0.064	U
PCB-1242	53469-21-9	1	10	0.067	U	0.076	U	0.064	U	0.064	U
PCB-1248	12672-29-6	1	10	0.067	U	0.076	U	0.064	U	0.064	U
PCB-1254	11097-69-1	1	10	0.067	U	*	*	0.064	U	0.064	U
PCB-1260	11096-82-5	1	10	**0.73**		**0.94**	*	**0.59**		**0.76**	
PCB-1262	37324-23-5	1	10	0.067	U	0.076	U	0.064	U	0.064	U
PCB-1268	11100-14-4	1	10	0.067	U	0.076	U	0.064	U	0.064	U
Total PCBs	1336-36-3	1	10	**0.73**		**0.94**		**0.59**		**0.76**	

Sample ID		**TSCA: Solid Porous Media High Occupancy - No Cap**	**TSCA: Solid Porous Media High Occupancy - With CAP**	**MS-206-3.0**		**MS-207-2.5**		**MS-208-2.8**		**MS-208-2.8-FD**	
Sample Date	**CAS#**			**11/13/2020**	**Q**	**11/13/2020**	**Q**	**11/13/2020**	**Q**	**11/13/2020**	**Q**
		(mg/Kg)	**(mg/Kg)**								
PCB-1016	12674-11-2	1	10	0.034	U	0.033	U	0.033	U	0.033	U
PCB-1221	11104-28-2	1	10	0.034	U	0.033	U	0.033	U	0.033	U
PCB-1232	11141-16-5	1	10	0.034	U	0.033	U	0.033	U	0.033	U
PCB-1242	53469-21-9	1	10	0.034	U	0.033	U	0.033	U	0.033	U
PCB-1248	12672-29-6	1	10	0.034	U	0.033	U	0.033	U	0.033	U
PCB-1254	11097-69-1	1	10	0.034	U	0.033	U	0.033	U	0.033	U
PCB-1260	11096-82-5	1	10	0.034	U	**0.150**		0.033	U	0.033	U
PCB-1262	37324-23-5	1	10	0.034	U	0.033	U	0.033	U	0.033	U
PCB-1268	11100-14-4	1	10	0.034	U	0.033	U	0.033	U	0.033	U
Total PCBs	1336-36-3	1	10	0.034	U	**0.150**		0.033	U	0.033	U

Key:
TSCA: Toxic Substance Control Act Walkaway Criteria for Porous Media
in High Occupancy Settings
mg/kg - milligrams per kilogram (parts per million)
U - Analyte not setected, laboratory reporting limit provided
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of TSCA: Solid Porous Media High Occupancy Walkaway
Italic results indicate an exceedence of the TSCA: Solid Porous Media High Occupancy With A Cap
* - For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no

Table B-4
Polychlorinated Biphenyl Analytical Results – Soil Samples

Sample ID		**VSS - Resident**	**VSS - Non-Resident**	**AMR-SBD-SB10-2.1-C**		**AMR-SBD-SB17-C**		**AMR-SBD-SB17-C-FD**		**AMR-SBD-SB18-C**		**AMR-SBD-SB19-C**		**RPD: AMR-SBD-SB17-C-FD**
Sample Date	**CAS#**			**12/17/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	
		(mg/Kg)	**(mg/Kg)**											
PCB-1016	12674-11-2	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
PCB-1221	11104-28-2	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
PCB-1232	11141-16-5	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
PCB-1242	53469-21-9	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
PCB-1248	12672-29-6	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
PCB-1254	11097-69-1	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
PCB-1260	11096-82-5	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	**0.32**		--
PCB-1262	37324-23-5	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
PCB-1268	11100-14-4	NE	NE	0.052	U	0.053	U	0.052	U	0.054	U	0.054	U	--
Total PCBs	1336-36-3	0.114	0.68	0.052	U	0.053	U	0.052	U	0.054	U	**0.32**		--

Sample ID		**VSS - Resident**	**VSS - Non-Resident**	**AMR-SBD-SB20-C**		**AMR-SBD-SB2-1.4**		**AMR-SBD-SB3-C**		**AMR-SBD-SB4-C**		**AMR-SBD-SB5-C**	
Sample Date	**CAS#**			**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**										
PCB-1016	12674-11-2	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
PCB-1221	11104-28-2	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
PCB-1232	11141-16-5	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
PCB-1242	53469-21-9	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
PCB-1248	12672-29-6	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
PCB-1254	11097-69-1	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
PCB-1260	11096-82-5	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	**0.31**	
PCB-1262	37324-23-5	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
PCB-1268	11100-14-4	NE	NE	0.054	U	0.052	U	0.054	U	0.050	U	0.054	U
Total PCBs	1336-36-3	0.114	0.68	0.054	U	0.052	U	0.054	U	0.050	U	**0.31**	

Sample ID		**VSS - Resident**	**VSS - Non-Resident**	**AMR-SBD-SB6-C-FD**		**AMR-SBD-SB7-C**		**AMR-SBD-SB8-2.2**		**AMR-SBD-SB9-C**		**AMR-SBS-SB14-SB15-SB16-C**		**RPD: AMR-SBD-SB6-C-FD**
Sample Date	**CAS#**			**12/16/2009**	**Q**	**12/17/2009**	**Q**	**12/17/2009**	**Q**	**12/17/2009**	**Q**	**12/11/2009**	**Q**	
		(mg/Kg)	**(mg/Kg)**											
PCB-1016	12674-11-2	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1221	11104-28-2	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1232	11141-16-5	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1242	53469-21-9	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1248	12672-29-6	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1254	11097-69-1	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1260	11096-82-5	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1262	37324-23-5	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
PCB-1268	11100-14-4	NE	NE	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--
Total PCBs	1336-36-3	0.114	0.68	0.056	U	0.050	U	0.051	U	0.051	U	0.057	U	--

Sample ID		**VSS - Resident**	**VSS - Non-Resident**	**AMR-SBS-SB18-0.5**		**AMR-SBS-SB1-SB2-SB3-C**		**AMR-SBS-SB4-SB5-SB6-C**		**AMR-SBS-SB7-SB8-SB9-SB10-C**		**AMR-SBS-SB7-SB8-SB9-SB-10-C-FD**	
Sample Date	**CAS#**			**12/11/2009**	**Q**	**12/11/2009**	**Q**	**12/11/2009**	**Q**	**12/11/2009**	**Q**	**12/11/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**										
PCB-1016	12674-11-2	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1221	11104-28-2	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1232	11141-16-5	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1242	53469-21-9	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1248	12672-29-6	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1254	11097-69-1	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1260	11096-82-5	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1262	37324-23-5	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
PCB-1268	11100-14-4	NE	NE	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U
Total PCBs	1336-36-3	0.114	0.68	0.052	U	0.058	U	0.057	U	0.059	U	0.056	U

Sample ID		**VSS - Resident**	**VSS - Non-Resident**	**AMR-SSL-SB21**		**AMR-SSL-SB22**		**AMR-SSL-SB23-0.5**		**AMR-SSL-Comp 7**		**AMR-SBS-SB17-SB18-SB19-SB**	
Sample Date	**CAS#**			**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/11/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**										
PCB-1016	12674-11-2	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1221	11104-28-2	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1232	11141-16-5	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1242	53469-21-9	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1248	12672-29-6	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1254	11097-69-1	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1260	11096-82-5	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1262	37324-23-5	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
PCB-1268	11100-14-4	NE	NE	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U
Total PCBs	1336-36-3	0.114	0.68	0.062	U	0.063	U	0.059	U	0.058	U	0.51	U

Sample ID		**VSS - Resident**	**VSS - Non-Resident**	**AMR-SB101-0.15**		**AMR-SB101-2.0**		**AMR-SB101-3.5**		**AMR-SB102-0.2**		**AMR-SB102-2.0**		**AMR-SB102-2.0 DUP**		**RPD: AMR-SBD-SB6-C-FD**
Sample Date				**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	
		(mg/Kg)	**(mg/Kg)**													
PCB-1016	12674-11-2	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1221	11104-28-2	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1232	11141-16-5	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1242	53469-21-9	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1248	12672-29-6	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1254	11097-69-1	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1260	11096-82-5	NE	NE	0.053	U	**0.057**		0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1262	37324-23-5	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
PCB-1268	11100-14-4	NE	NE	0.053	U	0.054	U	0.053	U	0.052	U	0.051	U	0.049	U	--
Total PCBs	1336-36-3	0.114	0.68	0.053	U	**0.057**		0.053	U	0.052	U	0.051	U	0.049	U	--

Table B-4
Polychlorinated Biphenyl Analytical Results – Soil Samples

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SB102-4.0		AMR-SB103-0.2		AMR-SB103-2.0		AMR-SB103-4.0		AMR-SB104-0.2		AMR-SB104-2.0	
Sample Date	CAS#			5/5/2010	Q	5/5/2010	Q	5/5/2010	Q	5/5/2010	Q	5/5/2010	Q	5/5/2010	Q
		(mg/Kg)	(mg/Kg)												
PCB-1016	12674-11-2	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1221	11104-28-2	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1232	11141-16-5	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1242	53469-21-9	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1248	12672-29-6	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1254	11097-69-1	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1260	11096-82-5	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1262	37324-23-5	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
PCB-1268	11100-14-4	NE	NE	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U
Total PCBs	1336-36-3	0.114	0.68	0.054	U	0.052	U	0.054	U	0.051	U	0.050	U	0.056	U

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SB104-3.5		AMR-SB105-0.2		AMR-SB105-2.0		AMR-SB105-3.0		AMR-SB105-4.0		AMR-SB106-0.2	
Sample Date	CAS#			5/5/2010	Q	5/5/2010	Q	5/5/2010	Q	5/5/2010	Q	5/5/2010	Q	5/5/2010	Q
		(mg/Kg)	(mg/Kg)												
PCB-1016	12674-11-2	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1221	11104-28-2	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1232	11141-16-5	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1242	53469-21-9	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1248	12672-29-6	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1254	11097-69-1	NE	NE	**0.17**		0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1260	11096-82-5	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1262	37324-23-5	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
PCB-1268	11100-14-4	NE	NE	0.06	U	0.050	U	0.054	U	0.054	U	0.054	U	0.052	U
Total PCBs	1336-36-3	0.114	0.68	**0.17**		0.050	U	0.054	U	0.054	U	0.054	U	0.052	U

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SB106-2.0		AMR-SB106-4.0		AMR-SB106-4.0 DUP		AMR-SB107-0.2		AMR-SB107-0.2 DUP		AMR-SB107-2.0		RPD: AMR-SB107-0.2	RPD: AMR-SB106-4.0
Sample Date	CAS#			5/5/2010	Q	5/5/2010	Q	5/5/2010 13:52	Q	5/5/2010	Q	5/5/2010	Q	5/5/2010	Q		
		(mg/Kg)	(mg/Kg)														
PCB-1016	12674-11-2	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	0.054	U	--	--
PCB-1221	11104-28-2	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	0.054	U	--	--
PCB-1232	11141-16-5	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	0.054	U	--	--
PCB-1242	53469-21-9	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	0.054	U	--	--
PCB-1248	12672-29-6	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	0.054	U	--	--
PCB-1254	11097-69-1	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	**0.45**		--	--
PCB-1260	11096-82-5	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	**0.27**		--	--
PCB-1262	37324-23-5	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	0.054	U	--	--
PCB-1268	11100-14-4	NE	NE	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	0.054	U	--	--
Total PCBs	1336-36-3	0.114	0.68	0.052	U	0.054	U	0.052	U	0.050	U	0.051	U	***0.72***		--	--

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SB107-4.0		SL-SB-111-2.0'		SL-SB-111-4.0'		SL-SB-111-4.0' FD		SL-SB-111-8.0'		SL-SB-112-2.0'		RPD: SL-SB-111-4.0'
Sample Date	CAS#			5/5/2010	Q	8/4/2011	Q	8/4/2011	Q	8/4/2011	Q	8/4/2011	Q	8/4/2011	Q	
		(mg/Kg)	(mg/Kg)													
PCB-1016	12674-11-2	NE	NE	0.054	U	0.055	U	0.054	U	0.051	U	0.053	U	0.048	U	--
PCB-1221	11104-28-2	NE	NE	0.054	U	0.055	U	0.054	U	0.051	U	0.053	U	0.048	U	--
PCB-1232	11141-16-5	NE	NE	0.054	U	0.055	U	0.054	U	0.051	U	0.053	U	0.048	U	--
PCB-1242	53469-21-9	NE	NE	0.054	U	0.055	U	0.054	U	0.051	U	0.053	U	0.048	U	--
PCB-1248	12672-29-6	NE	NE	0.054	U	0.055	U	0.054	U	0.051	U	0.053	U	0.048	U	--
PCB-1254	11097-69-1	NE	NE	0.054	U	**0.15**		0.054	U	0.051	U	0.053	U	**0.26**		--
PCB-1260	11096-82-5	NE	NE	0.054	U	**0.22**		**0.40**		**0.29**		0.053	U	**0.23**		--
PCB-1262	37324-23-5	NE	NE	0.054	U	0.055	U	0.054	U	0.051	U	0.053	U	0.048	U	--
PCB-1268	11100-14-4	NE	NE	0.054	U	0.055	U	0.054	U	0.051	U	0.053	U	0.048	U	--
Total PCBs	1336-36-3	0.114	0.68	0.054	U	**0.37**		**0.40**		**0.29**		0.053	U	**0.49**		--

Sample ID		VSS - Resident	VSS - Non-Resident	SL-SB-112-4.0'		SL-SB-112-8.0'		SL-113-13		SL-113-13-FD		SL-114-19		SL-SB-0.0-EB		RPD: SL-113-13
Sample Date	CAS#			8/4/2011	Q	8/4/2011	Q	10/27/2020	Q	10/27/2020	Q	10/27/2020	Q	8/4/2011	Q	
		(mg/Kg)	(mg/Kg)													
PCB-1016	12674-11-2	NE	NE	0.05	U	0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
PCB-1221	11104-28-2	NE	NE	0.05	U	0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
PCB-1232	11141-16-5	NE	NE	0.05	U	0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
PCB-1242	53469-21-9	NE	NE	0.05	U	0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
PCB-1248	12672-29-6	NE	NE	0.05	U	0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
PCB-1254	11097-69-1	NE	NE	0.2[illegible]		0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
PCB-1260	11096-82-5	NE	NE	0.1[illegible]		0.051	U	0.037	U	0.037	U	**6.20**		0.20	U	--
PCB-1262	37324-23-5	NE	NE	[illegible]	U	0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
PCB-1268	11100-14-4	NE	NE	0.05	U	0.051	U	0.037	U	0.037	U	3.50	U	0.20	U	--
Total PCBs	1336-36-3	0.114	0.68	0.[illegible]		0.051	U	0.037	U	0.037	U	***6.20***		0.20	U	--

Key:
Vermont Soil Standards from Investigation and Remediation of Contaminated Properties Rule, July 2019
RSL - US Environmental Protection Agency, Regional Screening Levels for Residential (Res) and Industrial (Ind) settings, May 2019
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed
RPD - Relative percent difference

Table B-5

Polychlorinated Biphenyl Analytical Results – Sediment Samples

Sample ID		**VT SQG TEC**	**VT SQG PEC**	**AMR-SED-BR 01**		**AMR-SED-BR 01-FD**		**AMR-SED-BR 02**		**AMR-SED-BR 06**	
Sample Date	**CAS#**			**12/23/2009**	**Q**	**12/23/2009**	**Q**	**12/23/2009**	**Q**	**12/23/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**								
PCB-1016	12674-11-2	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1221	11104-28-2	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1232	11141-16-5	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1242	53469-21-9	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1248	12672-29-6	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1254	11097-69-1	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1260	11096-82-5	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1262	37324-23-5	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
PCB-1268	11100-14-4	NE	NE	0.067	U	0.068	U	0.067	U	0.068	U
Total PCBs	1336-36-3	0.0598	0.676	0.067	U	0.068	U	0.067	U	0.068	U

Sample ID		**VT SQG TEC**	**VT SQG PEC**	**AMR-SED-BR 07**		**AMR-SED-BR 11**		**AMR-SED-BR 11-FD**		**AMR-SD-1**	
Sample Date	**CAS#**			**12/23/2009**	**Q**	**12/23/2009**	**Q**	**12/23/2009**	**Q**	**4/21/2010**	**Q**
		(mg/Kg)	**(mg/Kg)**								
PCB-1016	12674-11-2	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
PCB-1221	11104-28-2	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
PCB-1232	11141-16-5	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
PCB-1242	53469-21-9	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
PCB-1248	12672-29-6	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
PCB-1254	11097-69-1	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
PCB-1260	11096-82-5	NE	NE	0.083	U	0.054	U	0.052	U	**0.170**	
PCB-1262	37324-23-5	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
PCB-1268	11100-14-4	NE	NE	0.083	U	0.054	U	0.052	U	0.050	U
Total PCBs	1336-36-3	0.0598	0.676	0.083	U	0.054	U	0.052	U	**0.170**	

Sample ID		**VT SQG TEC**	**VT SQG PEC**	**AMR-SD-2**		**AMR-SD-3**		**AMR-SD-4**		**AMR-SD-4-FD**	
Sample Date	**CAS#**			**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**
		(mg/Kg)	**(mg/Kg)**								
PCB-1016	12674-11-2	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1221	11104-28-2	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1232	11141-16-5	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1242	53469-21-9	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1248	12672-29-6	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1254	11097-69-1	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1260	11096-82-5	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1262	37324-23-5	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
PCB-1268	11100-14-4	NE	NE	0.050	U	0.049	U	0.051	U	0.051	U
Total PCBs	1336-36-3	0.0598	0.676	0.050	U	0.049	U	0.051	U	0.051	U

Sample ID		**VT SQG TEC**	**VT SQG PEC**	**AMR-SD-5**		**AMR-SD-6**		**AMR-SED-101**		**AMR-SED-102**	
Sample Date	**CAS#**			**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**
		(mg/Kg)	**(mg/Kg)**								
PCB-1016	12674-11-2	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1221	11104-28-2	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1232	11141-16-5	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1242	53469-21-9	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1248	12672-29-6	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1254	11097-69-1	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1260	11096-82-5	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1262	37324-23-5	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
PCB-1268	11100-14-4	NE	NE	0.051	U	0.052	U	0.064	U	0.062	U
Total PCBs	1336-36-3	0.0598	0.676	0.051	U	0.052	U	0.064	U	0.062	U

Key:
VT SQG - Recommended Sediment Quality Guidelines for the Protection ofAquatic Biota in Freshwater Ecosystems
TEC - Threshold Effect Concentration
PEC - Probable Effects Concentration
mg/kg - milligrams per kilogram (parts per million)
RPD - relative percent difference
Bold results indicate detections of the analyte
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed

Table B-6

Polychlorinated Biphenyl Analytical Results – Wipe Samples

Sample ID		**TSCA: Solid Non-Porous Media High Occupancy Walkaway**	**AMR-MS01**		**AMR-MS02**		**AMR-MS03**		**AMR-MS03 -FD**		**AMR-MS04**	
Sample Date	**CAS#**		**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**
		(µg/100 cm2)										
PCB-1016	12674-11-2	10	5.0	U	0.50	U	25	U	25	U	5	U
PCB-1221	11104-28-2	10	5.0	U	0.50	U	25	U	25	U	5	U
PCB-1232	11141-16-5	10	5.0	U	0.50	U	25	U	25	U	5	U
PCB-1242	53469-21-9	10	5.0	U	0.50	U	25	U	25	U	5	U
PCB-1248	12672-29-6	10	5.0	U	0.50	U	25	U	25	U	5	U
PCB-1254	11097-69-1	10	5.0	U	0.50	U	25	U	25	U	**55**	
PCB-1260	11096-82-5	10	**130**		**8.3**		**780**		**730**		**130**	
PCB-1262	37324-23-5	10	5.0	U	0.50	U	25	U	25	U	5	U
PCB-1268	11100-14-4	10	5.0	U	0.50	U	25	U	25	U	5	U
Total PCBs	1336-36-3	10	**130**		**8.3**		**780**		**730**		**185**	

Sample ID		**TSCA: Solid Non-Porous Media High Occupancy Walkaway**	**AMR-MS05**		**AMR-MS06**		**WIP-WP-101-0.0'-EB**		**WIP-WP-11-0.0'**		**WIP-WP-12-0.0'**	
Sample Date	**CAS#**		**4/21/2010**	**Q**	**4/21/2010**	**Q**	**7/21/2011**	**Q**	**7/21/2011**	**Q**	**7/21/2011**	**Q**
		(µg/100 cm2)										
PCB-1016	12674-11-2	10	2.5	U	2.5	U	0.50	U	2.5	U	2.5	U
PCB-1221	11104-28-2	10	2.5	U	2.5	U	0.50	U	2.5	U	2.5	U
PCB-1232	11141-16-5	10	2.5	U	2.5	U	0.50	U	2.5	U	2.5	U
PCB-1242	53469-21-9	10	2.5	U	2.5	U	0.50	U	2.5	U	2.5	U
PCB-1248	12672-29-6	10	2.5	U	2.5	U	0.50	U	2.5	U	2.5	U
PCB-1254	11097-69-1	10	**21**		**40**		0.50	U	**9.1**		**14**	
PCB-1260	11096-82-5	10	**45**		**88**		0.50	U	**14**		**20**	
PCB-1262	37324-23-5	10	2.5	U	2.5	U	0.50	U	2.5	U	2.5	U
PCB-1268	11100-14-4	10	2.5	U	2.5	U	0.50	U	2.5	U	2.5	U
Total PCBs	1336-36-3	10	**66**		**128**		0.50	U	**23**		**34**	

Sample ID		**TSCA: Solid Non-Porous Media High Occupancy Walkaway**	**WIP-WP-13-0.0'**		**WIP-WP-14-0.0'**		**WIP-WP-14-0.0'-FD**		**WIP-WP-180-3.0'**		**WIP-WP-180-6.0'**	
Sample Date	**CAS#**		**7/21/2011 10:59**	**Q**	**7/21/2011**	**Q**	**7/21/2011**	**Q**	**7/19/2011**	**Q**	**7/19/2011**	**Q**
		(µg/100 cm2)										
PCB-1016	12674-11-2	10	2.5	U	2.5	U	2.5	U	0.50	U	0.50	U
PCB-1221	11104-28-2	10	2.5	U	2.5	U	2.5	U	0.50	U	0.50	U
PCB-1232	11141-16-5	10	2.5	U	2.5	U	2.5	U	0.50	U	0.50	U
PCB-1242	53469-21-9	10	2.5	U	2.5	U	2.5	U	0.50	U	0.50	U
PCB-1248	12672-29-6	10	2.5	U	2.5	U	2.5	U	0.50	U	0.50	U
PCB-1254	11097-69-1	10	**2.6**		**16**		**15**		0.50	U	0.50	U
PCB-1260	11096-82-5	10	**4.6**		**17**		**16**		0.50	U	0.50	U
PCB-1262	37324-23-5	10	2.5	U	2.5	U	2.5	U	0.50	U	0.50	U
PCB-1268	11100-14-4	10	2.5	U	2.5	U	2.5	U	0.50	U	0.50	U
Total PCBs	1336-36-3	10	**7.2**		**33**		**31**		0.50	U	0.50	U

Table B-6
Polychlorinated Biphenyl Analytical Results – Wipe Samples

Sample ID		TSCA: Solid Non-Porous Media High Occupancy Walkaway	CON-MS-901-0.0'-EB		CON-MS-902-0.0' EB		CON-MS-903-0.0' EB		WP-01-5.0		WP-02-1.0	
Sample Date	**CAS#**		**7/21/2011**	**Q**	**7/19/2011**	**Q**	**7/20/2011**		**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(µg/100 cm2)										
PCB-1016	12674-11-2	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1221	11104-28-2	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1232	11141-16-5	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1242	53469-21-9	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1248	12672-29-6	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1254	11097-69-1	10	0.50	U	**1.0**		**5.2**		0.50	U	0.50	U
PCB-1260	11096-82-5	10	0.50	U	**1.1**		**12**		**2.3**		0.50	U
PCB-1262	37324-23-5	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1268	11100-14-4	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Total PCBs	1336-36-3	10	0.50	U	**2.1**		**17.2**		**2.3**		0.50	U

Sample ID		TSCA: Solid Non-Porous Media High Occupancy Walkaway	WP-03-4.0		WP-03-4.0-FD		EB-102720		EB-102820		EB-102920	
Sample Date	**CAS#**		**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**	**10/27/2020**	**Q**
		(µg/100 cm2)										
PCB-1016	12674-11-2	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1221	11104-28-2	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1232	11141-16-5	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1242	53469-21-9	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1248	12672-29-6	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1254	11097-69-1	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1260	11096-82-5	10	**2.5**		**1.4**		0.50	U	0.50	U	0.50	U
PCB-1262	37324-23-5	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
PCB-1268	11100-14-4	10	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Total PCBs	1336-36-3	10	**2.5**		**1.4**		0.50	U	0.50	U	0.50	U

Key:
TSCA - Toxic Substance Control Act for non-porous media in a high occupancy setting
µg/100 cm^2 - micrograms per 100 square centimeters
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed
RPD - Relative percent difference

Table B-7

PCB Analytical Results – Groundwater Samples

SampleID		**VGES**	**AMR-GW-GW-3**		**AMR-GW-GW-5**		**AMR-GW-GW-5-FD**		**GW-GW-3**	
Sample Date	**CAS#**		**2/23/2010**		**2/23/2010**		**2/23/2010**		**8/10/2011**	**Q**
		(µg/L)								
Aroclor 1016	12674-11-2	0.5	0.21	U	0.21	U	0.20	U	0.20	U
Aroclor 1221	11104-28-2	0.5	0.21	U	0.21	U	0.20	U	0.20	U
Aroclor 1232	11141-16-5	0.5	0.21	U	0.21	U	0.20	U	0.20	U
Aroclor 1242	53469-21-9	0.5	0.21	U	0.21	U	0.20	U	0.20	U
Aroclor 1248	12672-29-6	0.5	0.21	U	0.21	U	0.20	U	0.20	U
Aroclor 1254	11097-69-1	0.5	0.21	U	0.21	U	0.20	U	0.20	U
Aroclor 1260	11096-82-5	0.5	0.21	U	0.21	U	0.20	U	0.20	U
Aroclor 1262	37324-23-5	0.5	NS		NS		NS		NS	
Aroclor 1268	11100-14-4	0.5	NS		NS		NS		NS	
Total PCBs	1336-36-3	0.5	0.21	U	0.21	U	0.20	U	0.20	U
SampleID		**VGES**	**GW-GW-5**		**GW-MW-11**		**GW-MW-12**		**GW-MW-13**	
Sample Date	**CAS#**		**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/11/2011**	**Q**
		(µg/L)								
Aroclor 1016	12674-11-2	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Aroclor 1221	11104-28-2	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Aroclor 1232	11141-16-5	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Aroclor 1242	53469-21-9	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Aroclor 1248	12672-29-6	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Aroclor 1254	11097-69-1	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Aroclor 1260	11096-82-5	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Aroclor 1262	37324-23-5	0.5	NS		NS		NS		NS	
Aroclor 1268	11100-14-4	0.5	NS		NS		NS		NS	
Total PCBs	1336-36-3	0.5	0.20	U	0.20	U	0.20	U	0.20	U
Sample ID		**VGES**	**GW-MW-13-FD**		**GW-MW-14**		**GW-MW-15**		**SL-SB-0.0-EB**	
Sample Date	**CAS#**		**8/11/2011**	**Q**	**8/11/2011**	**Q**	**8/10/2011**	**Q**	**8/4/2011**	**Q**
		(µg/L)								
Aroclor 1016	12674-11-2	0.5	0.20	U	0.20	U	0.20	U	0.2	U
Aroclor 1221	11104-28-2	0.5	0.20	U	0.20	U	0.20	U	0.2	U
Aroclor 1232	11141-16-5	0.5	0.20	U	0.20	U	0.20	U	0.2	U
Aroclor 1242	53469-21-9	0.5	0.20	U	0.20	U	0.20	U	0.2	U
Aroclor 1248	12672-29-6	0.5	0.20	U	0.20	U	0.20	U	0.2	U
Aroclor 1254	11097-69-1	0.5	0.20	U	0.20	U	0.20	U	0.2	U
Aroclor 1260	11096-82-5	0.5	0.20	U	0.20	U	0.20	U	0.2	U
Aroclor 1262	37324-23-5	0.5	NS		NS		NS		0.2	U
Aroclor 1268	11100-14-4	0.5	NS		NS		NS		0.2	U
Total PCBs	1336-36-3	0.5	0.20	U	0.20	U	0.20	U	0.2	U

Key:
VGES - Vermont Groundwater Enforcement Standard, July 2019
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed
NS - Sample not analyzed for compound
RPD - relative percent difference

Table B-9
Metals Analytical Results – Soil Samples

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SBD-GW1-C		AMR-SBD-SB10-2.1-C		AMR-SBD-SB17-C		AMR-SBD-SB17-C-FD		AMR-SBD-SB18-C		AMR-SBD-SB19-C	
Sample Date	CAS#			12/15/2009	Q	12/17/2009	Q	12/16/2009	Q	12/16/2009	Q	12/16/2009	Q	12/16/2009	Q
		(mg/Kg)	(mg/Kg)												
Antimony	7440-36-0	26	319	4.95	U	5.3	U	5.16	U	5.35	U	5.18	U	5.29	U
Beryllium	7440-41-7	35	289	0.309	U	0.331	U	0.322	U	0.334	U	0.324	U	0.331	U
Cadmium	7440-43-9	6.9	87	0.618	U	0.662	U	0.645	U	0.669	U	0.648	U	0.662	U
Chromium	7440-47-3	NE	NE	**6.8**		**8.64**		**10.9**		**9.7**		**9.03**		**10.4**	
Copper	7440-50-8	10407	139231	**66.7**		**33.4**		**27.1**		**29.8**		**10.3**		**33.9**	
Lead	7439-92-1	400	800	**24.1**		**22.4**		**17.9**		**21.1**		**4.92**		**45.7**	
Nickel	7440-02-0	940	9707	**7.03**		**10.7**		**12.3**		**12.7**		**10.9**		**11.8**	
Selenium	7782-49-2	366	4900	14.8	U	15.9	U	15.5	U	16.1	U	15.6	U	15.9	U
Silver	7440-22-4	237	2483	1.73	U	1.85	U	1.81	U	1.87	U	1.81	U	1.85	U
Zinc	7440-66-6	21986	294150	**46.2**		**70.3**		**53.9**		**55.6**		**39.3**		**66.2**	
Mercury	7439-97-6	3.1	3.1	**0.0793**		0.0555	U	**0.0871**		**0.111**		0.0547	U	0.0534	U

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SBD-SB1-C		AMR-SBD-SB20-C		AMR-SBD-SB2-1.4		AMR-SBD-SB3-C		AMR-SBD-SB4-C		AMR-SBD-SB5-C	
Sample Date	CAS#			12/16/2009	Q	12/16/2009	Q	12/16/2009	Q	12/16/2009	Q	12/16/2009	Q	12/16/2009	Q
		(mg/Kg)	(mg/Kg)												
Antimony	7440-36-0	26	319	5.47	U	5.46	U	5.42	U	25.4	U	5.29	U	5.34	U
Beryllium	7440-41-7	35	289	0.342	U	0.342	U	0.339	U	1.59	U	0.33	U	0.334	U
Cadmium	7440-43-9	6.9	87	**1.03**		0.683	U	**1.33**		3.17	U	0.661	U	**0.94**	
Chromium	7440-47-3	NE	NE	**10.4**		**13.7**		**9.33**		**16.9**		**12.3**		**12**	
Copper	7440-50-8	10407	139231	**22.3**		**27.3**		**37.7**		**51.8**		**18.4**		**16.6**	
Lead	7439-92-1	400	800	**97.1**		**30.1**		**157**		**97**		3.3	U	**17.9**	
Nickel	7440-02-0	940	9707	**11.5**		**13.4**		**12.7**		25.4	U	**38.9**		**16.5**	
Selenium	7782-49-2	366	4900	16.4	U	16.4	U	16.3	U	76.1	U	15.9	U	16	U
Silver	7440-22-4	237	2483	1.91	U	1.91	U	1.9	U	8.88	U	1.85	U	1.87	U
Zinc	7440-66-6	21986	294150	**94.7**		**58**		**278**		**176**		**37.2**		**51.2**	
Mercury	7439-97-6	3.1	3.1	**0.182**		0.0552	U	**0.0847**		**0.0998**		0.0499	U	0.0521	U

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SBD-SB6-C		AMR-SBD-SB6-C-FD		AMR-SBD-SB7-C		AMR-SBD-SB8-2.2		AMR-SBD-SB9-C		AMR-SBS-SB14-SB15-SB16-C	
Sample Date	CAS#			12/16/2009	Q	12/16/2009	Q	12/17/2009	Q	12/17/2009	Q	12/17/2009	Q	12/11/2009	Q
		(mg/Kg)	(mg/Kg)												
Antimony	7440-36-0	26	319	5.76	U	**8.28**		5.25	U	5.22	U	5.18	U	5.92	U
Beryllium	7440-41-7	35	289	0.36	U	0.339	U	0.328	U	0.326	U	0.324	U	0.37	U
Cadmium	7440-43-9	6.9	87	**2.51**		**2.76**		0.656	U	0.652	U	**4.15**		0.74	U
Chromium	7440-47-3	NE	NE	**10.3**		**9.08**		**8.48**		**6.59**		**6.54**		**12.8**	
Copper	7440-50-8	10407	139231	**23.1**		**24**		**13.4**		**13.6**		**18.9**		**19.8**	
Lead	7439-92-1	400	800	**78.4**		**100**		**4.49**		3.26	U	**54.0**		**12.1**	
Nickel	7440-02-0	940	9707	**9.84**		**9.05**		**10.4**		**7.88**		**9.8**		**14.0**	
Selenium	7782-49-2	366	4900	17.3	U	16.3	U	15.7	U	15.7	U	15.5	U	17.7	U
Silver	7440-22-4	237	2483	2.02	U	1.9	U	1.84	U	1.83	U	1.81	U	2.07	U
Zinc	7440-66-6	21986	294150	**414**		**444**		**34.5**		**24.7**		**709**		**49.7**	
Mercury	7439-97-6	3.1	3.1	0.0546	U	0.0555	U	0.0529	U	0.0541	U	0.0532	U	0.0591	U

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SBS-SB17-SB18-SB19-SB-20-C		AMR-SBS-SB18-0.5		AMR-SBS-SB1-SB2-SB3-C		AMR-SBS-SB4-SB5-SB6-C		AMR-SBS-SB7-SB8-SB9-SB10-C		AMR-SBS-SB7-SB8-SB9-SB-10-C-FD	
Sample Date	CAS#			12/11/2009	Q	12/11/2009	Q	12/11/2009	Q	12/11/2009	Q	12/11/2009	Q	12/11/2009	Q
		(mg/Kg)	(mg/Kg)												
Antimony	7440-36-0	26	319	5.35	U	5.43	U	5.46	U	5.79	U	5.87	U	5.39	U
Beryllium	7440-41-7	35	289	0.334	U	0.339	U	0.341	U	0.362	U	0.367	U	0.337	U
Cadmium	7440-43-9	6.9	87	0.669	U	0.678	U	0.682	U	0.724	U	0.734	U	0.673	U
Chromium	7440-47-3	NE	NE	**6.89**		**7.73**		**13.5**		**10.5**		**10.4**		**10.0**	
Copper	7440-50-8	10407	139231	**17**		**18.6**		**53.7**		**15.6**		**12.5**		**12.2**	
Lead	7439-92-1	400	800	**4.74**		**5.01**		**98.8**		**26.3**		**18.8**		**14.1**	
Nickel	7440-02-0	940	9707	**8.83**		**10.7**		**11.6**		**10**		**10.2**		**9.51**	
Selenium	7782-49-2	366	4900	16.1	U	16.3	U	16.4	U	17.4	U	17.6	U	16.2	U
Silver	7440-22-4	237	2483	1.87	U	1.9	U	1.91	U	2.03	U	2.05	U	1.88	U
Zinc	7440-66-6	21986	294150	**29.4**		**31.3**		**110**		**46.9**		**43.6**		**43.3**	
Mercury	7439-97-6	3.1	3.1	0.053	U	0.0527	U	**0.0593**		0.0566	U	0.0577	U	0.057	U

Sample ID		VSS - Resident	VSS - Non-Resident	AMR-SSL-Comp 7		AMR-SSL-SB21		AMR-SSL-SB22		AMR-SSL-SB23-0.5	
Sample Date	CAS#			12/10/2009	Q	12/10/2009	Q	12/10/2009	Q	12/10/2009	Q
		(mg/Kg)	(mg/Kg)								
Antimony	7440-36-0	26	319	6.12	U	5.97	U	6.43	U	6.12	U
Beryllium	7440-41-7	35	289	0.383	U	0.373	U	0.402	U	0.382	U
Cadmium	7440-43-9	6.9	87	**1.07**		0.747	U	0.803	U	0.765	U
Chromium	7440-47-3	NE	NE	**17.8**		**16.9**		**15.7**		**16.8**	
Copper	7440-50-8	10407	139231	**29.5**		**23.1**		**16.6**		**22.9**	
Lead	7439-92-1	400	800	**18.1**		**23.7**		**10.3**		**19.2**	
Nickel	7440-02-0	940	9707	**16.8**		**15.5**		**15**		**17.7**	
Selenium	7782-49-2	366	4900	18.4	U	17.9	U	19.3	U	18.4	U
Silver	7440-22-4	237	2483	2.14	U	2.09	U	2.25	U	2.14	U
Zinc	7440-66-6	21986	294150	**96.1**		**49.5**		**48.2**		**74.3**	
Mercury	7439-97-6	3.1	3.1	0.0582	U	0.0622	U	**0.0849**		0.0612	U

Sample ID		VSS - Resident	VSS - Non-Resident	SL-SB-111-2.0'		SL-SB-111-4.0'		SL-SB-111-4.0' FD		SL-SB-111-8.0'		SL-SB-112-2.0'		SL-SB-112-4.0'	
Sample Date	CAS#			8/4/2011	Q	8/4/2011	Q	8/4/2011	Q	8/4/2011	Q	8/4/2011	Q	8/4/2011	Q
		(mg/Kg)	(mg/Kg)												
Antimony	7440-36-0	26	319	5.54	U	5.42	U	5.28	U	4.80	U	4.82	U	5.14	U
Beryllium	7440-41-7	35	289	**0.422**		0.339	U	**0.333**		0.300	U	0.301	U	0.321	U
Cadmium	7440-43-9	6.9	87	0.692	U	0.678	U	0.659	U	0.600	U	0.602	U	0.643	U
Chromium	7440-47-3	NE	NE	**10.6**		**15.8**		**16.6**		**5.82**		**14.3**		**13.5**	
Copper	7440-50-8	10407	139231	**20.7**		**57.4**		**62.5**		**42.7**		**30.5**		**28.5**	
Lead	7439-92-1	400	800	**13.4**		**33.9**		**30.5**		**34.9**		**25.8**		**16.1**	
Nickel	7440-02-0	940	9707	**13.9**		**18.5**		**15.7**		**5.84**		**12.8**		**15.1**	
Selenium	7782-49-2	366	4900	16.6	U	16.3	U	15.8	U	14.4	U	14.5	U	15.4	U
Silver	7440-22-4	237	2483	1.94	U	1.90	U	1.85	U	1.68	U	1.69	U	1.80	U
Zinc	7440-66-6	21986	294150	**48.3**		**78.5**		**65.8**		**44.1**		**47.3**		**41.6**	
Arsenic	7440-38-2	16	16	6.92	U	6.78	U	6.59	U	6.00	U	6.02	U	6.43	U
Mercury	7439-97-6	3.1	3.1	0.055	U	0.051	U	**0.054**		0.050	U	**0.058**		0.050	U
Thallium	7440-28-0	0.73	196100	6.92	U	6.78	U	6.59	U	6.00	U	6.02	U	6.43	U

Sample ID		VSS - Resident	VSS - Non-Resident	SL-SB-112-8.0'	
Sample Date	CAS#			8/4/2011	Q
		(mg/Kg)	(mg/Kg)		
Antimony	7440-36-0	26	319	4.65	U
Beryllium	7440-41-7	35	289	0.291	U
Cadmium	7440-43-9	6.9	87	0.581	U
Chromium	7440-47-3	NE	NE	**4.32**	
Copper	7440-50-8	10407	139231	**12.5**	
Lead	7439-92-1	400	800	**17.5**	
Nickel	7440-02-0	940	9707	4.65	U
Selenium	7782-49-2	366	4900	14.0	U
Silver	7440-22-4	237	2483	1.63	U
Zinc	7440-66-6	21986	294150	**53.7**	
Arsenic	7440-38-2	16	16	5.81	U
Mercury	7439-97-6	3.1	3.1	0.051	U
Thallium	7440-28-0	0.73	196100	5.81	U

Key:
Vermont Soil Standards from Investigation and Remediation of Contaminated Properties Rule, July 20
mg/kg - milligrams per kilogram (parts per million
Bold results indicate detections of the analyt
Shaded results indicate an exceedence of the enforcement standard(
NE - screening level not establishe
Q - laboratory result qualifie
U - Analyte not detected; limit of quantitation liste
RPD - Relative percent differenc

Table B-9

Metals Analytical Results – Groundwater Samples

Sample ID		**VGES**	**AMR-GW-GW-3**		**AMR-GW-GW-5**		**AMR-GW-GW-5-FD**		**AMR-GW-GW-7**		**GW-GW3**	
Sample Date	**CAS#**		**2/23/2010**		**2/23/2010**		**2/23/2010**		**2/23/2010**		**8/10/2011**	**Q**
		(µg/L)										
Beryllium	7440-41-7	4	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
Cadmium	7440-43-9	5	5.0	U	5.0	U	5.0	U	5.0	U	4.0	U
Chromium	7440-47-3	100	**28.9**		10	U	10	U	10	U	10	U
Copper	7440-50-8	1300	**31.8**		25	U	25	U	25	U	25	U
Lead	7439-92-1	15	**8.9**		5.0	U	5.0	U	**5.7**		13	U
Nickel	7440-02-0	100	**56.9**		40	U	40	U	40	U	40	U
Silver	7440-22-4	NE	7.0	U	7.0	U	7.0	U	7.0	U	7.0	U
Zinc	7440-66-6	NE	**109**		20	U	20	U	20	U	20	U
Antimony	7440-36-0	NE	20	U	20	U	20	U	20	U	5.0	U
Arsenic	7440-38-2	10	4.0	U	4.0	U	4.0	U	**4.4**		4.0	U
Mercury	7439-97-6	2	0.20	U	0.20	U	0.20	U	0.20	U	0.2	U
Selenium	7782-49-2	50	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Thallium	7440-28-0	2	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U

Sample ID		**VGES**	**GW-GW-3**		**GW-GW-5**		**GW-MW-11**		**GW-MW-12**		**GW-MW-13**	
Sample Date	**CAS#**		**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/11/2011**	**Q**
		(µg/L)										
Beryllium	7440-41-7	4	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
Cadmium	7440-43-9	5	**4.4**		4.0	U	4.0	U	4.0	U	4.0	U
Chromium	7440-47-3	100	**176**		10	U	10	U	10	U	10	U
Copper	7440-50-8	1300	**214**		25	U	25	U	25	U	25	U
Lead	7439-92-1	15	**116**		**15.2**		**13.1**		12.5	U	12.5	U
Nickel	7440-02-0	100	**170**		40	U	40	U	40	U	40	U
Silver	7440-22-4	NE	7.0	U	7.0	U	7.0	U	7.0	U	7.0	U
Zinc	7440-66-6	NE	**599**		20	U	20	U	20	U	20	U
Antimony	7440-36-0	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Arsenic	7440-38-2	10	**28**		4.0	U	4.0	U	4.0	U	4.0	U
Mercury	7439-97-6	2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Selenium	7782-49-2	50	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Thallium	7440-28-0	2	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U

Sample ID		**VGES**	**GW-MW-13-FD**		**GW-MW-14**		**GW-MW-15**		**SL-SB-0.0-EB**	
Sample Date	**CAS#**		**8/11/2011**	**Q**	**8/11/2011**	**Q**	**8/10/2011**	**Q**	**8/4/2011**	**Q**
		(µg/L)								
Beryllium	7440-41-7	4	4.0	U	4.0	U	4.0	U	4.0	U
Cadmium	7440-43-9	5	4.0	U	4.0	U	4.0	U	4.0	U
Chromium	7440-47-3	100	10	U	**151**		10	U	10	U
Copper	7440-50-8	1300	25	U	**136**		25	U	25	U
Lead	7439-92-1	15	12.5	U	**52.6**		12.5	U	12.5	U
Nickel	7440-02-0	100	40	U	**186**		40	U	40	U
Selenium	7782-49-2	50	5.0	U	5.0	U	5.0	U	80	U
Silver	7440-22-4	NE	7.0	U	7.0	U	7.0	U	NS	
Zinc	7440-66-6	NE	20	U	**319**		20	U	20	U
Antimony	7440-36-0	NE	5.0	U	5.0	U	5.0	U	5.0	U
Arsenic	7440-38-2	10	4.0	U	**7.8**		4.0	U	4.0	U
Mercury	7439-97-6	2	0.2	U	0.2	U	0.2	U	0.2	U
Selenium	7782-49-2	50	5.0	U	5.0	U	5.0	U	5.0	U
Thallium	7440-28-0	2	2.0	U	2.0	U	2.0	U	2.0	U

Key:

VGES - Vermont Groundwater Enforcement Standard, July 2019

µg/L - micrograms per liter (parts per billion)

Bold results indicate detections of the analyte

Shaded results indicate an exceedence of the enforcement standard(s)

NE - screening level not established

Q - laboratory result qualifier

U - Analyte not detected; limit of quantitation listed

NS - Sample not analyzed for compound

RPD - relative percent difference

Table B-10
Metals Analytical Results – Sediment Samples

Sample ID		**VT SQG PEC**	**VT SQG TEC**	**AMR-SED-BR 01**		**AMR-SED-BR 01-FD**		**AMR-SED-BR 02**		**AMR-SED-BR 06**		**AMR-SED-BR 07**	
Sample Date	**CAS#**			**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**
		(mg/Kg)	**(mg/Kg)**										
Antimony	7440-36-0	NE	NE	7	U	6.69	U	7	U	7.14	U	14	
Beryllium	7440-41-7	NE	NE	0.4	U	0.418	U	0.438	U	0.446	U	0.543	U
Cadmium	7440-43-9	0.99	4.98	**0.91**		**1.01**		0.875	U	0.892	U	1.09	U
Chromium	7440-47-3	43.4	111	**87.1**		**106**		**12.9**		**17**		21.4	
Copper	7440-50-8	31.6	149	**17**		**18.3**		**12.9**		**18.7**		53.1	
Lead	7439-92-1	35.8	128	**30.7**		**33.1**		**18.8**		**40.9**		43.2	
Nickel	7440-02-0	22.7	48.6	**24.1**		**27.7**		**27.4**		**19.5**		31.3	
Selenium	7782-49-2	NE	NE	21.3	U	20.1	U	21	U	21.4	U	26.1	U
Silver	7440-22-4	NE	NE	2.5	U	2.34	U	2.45	U	2.5	U	3.04	U
Zinc	7440-66-6	121	459	**98.8**		**108**		**130**		**85.3**		96.2	
Arsenic	7440-38-2	9.79	33	1.8	U	**1.67**		1.75	U	**2.86**		3.1	
Mercury	7439-97-6	0.18	1.06	**0.286**		**0.0696**		0.0666	U	**0.116**		**0.0919**	
Thallium	7440-28-0	NE	NE	**1.8**		**1.7**		1.8	U	1.8	U	2.2	U

Sample ID		**VT SQG TEC**	**VT SQG PEC**	**AMR-SED-BR 11**		**AMR-SED-BR 11-FD**		**AMR-SED-101**		**AMR-SED-102**	
Sample Date	**CAS#**			**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**
		(mg/Kg)	**(mg/Kg)**								
Antimony	7440-36-0	NE	NE	**5.32**		**17.4**		6.57	U	11.9	
Beryllium	7440-41-7	NE	NE	**0.333**		0.318	U	0.41	U	0.391	U
Cadmium	7440-43-9	0.99	4.98	**0.665**		0.635	U	0.821	U	0.782	U
Chromium	7440-47-3	43.4	111	**4.39**		**5.73**		***7.22***		***10.3***	
Copper	7440-50-8	31.6	149	**10.5**		***385***		***35.9***		***32.9***	
Lead	7439-92-1	35.8	128	**10.3**		**22.9**		***12.6***		***9.67***	
Nickel	7440-02-0	22.7	48.6	5.32	U	**11**		***8.25***		***11.2***	
Selenium	7782-49-2	NE	NE	16	U	15.2	U	19.7	U	18.8	U
Silver	7440-22-4	NE	NE	1.86	U	1.78	U	2.3	U	2.19	U
Zinc	7440-66-6	121	459	**25.7**		**46.1**		***40.8***		***34.6***	
Arsenic	7440-38-2	9.79	33	1.33	U	**3.11**		1.64	U	6.26	U
Mercury	7439-97-6	0.18	1.06	0.0529	U	0.0538	U	0.0635	U	0.0627	U
Thallium	7440-28-0	NE	NE	1.3	U	1.3	U	1.6	U	1.6	U

Key:
VT SQG - Recommended Sediment Quality Guidelines for the Protection ofAquatic Biota in Freshwater Ecosystems
TEC - Threshold Effect Concentration
PEC - Probable Effects Concentration
mg/kg - milligrams per kilogram (parts per million)
RPD - relative percent difference
Bold results indicate detections of the analyte
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed

Table B-11
VOC Analytical Results – Groundwater Samples

SampleID		**VGES**	**AMR-GW-GW-3**		**AMR-GW-GW-5**		**AMR-GW-GW-5-FD**		**AMR-GW-GW-7**		**RPD: AMR-GW-GW-5**
Sample Date	**CAS#**		**2/23/2010**		**2/23/2010**		**2/23/2010**		**2/23/2010**		
		(µg/L)									
1,1,1,2-Tetrachloroethane	630-20-6	70	2.0	U	2.0	U	2.0	U	2.0	U	--
1,1,1-Trichloroethane	71-55-6	200	2.0	U	2.0	U	2.0	U	2.0	U	--
1,1,2,2-Tetrachloroethane	79-34-5	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
1,1,2-Trichloroethane	79-00-5	5	2.0	U	2.0	U	2.0	U	2.0	U	--
1,1-Dichloroethane	75-34-3	70	2.0	U	2.0	U	2.0	U	2.0	U	--
1,1-Dichloroethene	75-35-4	7	1.0	U	1.0	U	1.0	U	1.0	U	--
1,1-Dichloropropene	563-58-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
1,2,3-Trichlorobenzene	87-61-6	0.9	2	U	2.0	U	2.0	U	2.0	U	--
1,2,3-Trichloropropane	96-18-4	0.02	2.0	U	2.0	U	2.0	U	2.0	U	--
1,2,4-Trichlorobenzene	120-82-1	70	2.0	U	2.0	U	2.0	U	2.0	U	--
1,2,4-Trimethylbenzene	95-63-6	23	2.0	U	2.0	U	2.0	U	2.0	U	--
1,2-Dibromo-3-chloropropane	96-12-8	0.2	5.0	U	5.0	U	5.0	U	5.0	U	--
1,2-Dibromoethane	106-93-4	0.05	2.0	U	2.0	U	2.0	U	2.0	U	--
1,2-Dichlorobenzene	95-50-1	600	2.0	U	2.0	U	2.0	U	2.0	U	--
1,2-Dichloroethane	107-06-2	5	2	U	2.0	U	2.0	U	2.0	U	--
1,2-Dichloropropane	78-87-5	5	2.0	U	2.0	U	2.0	U	2.0	U	--
1,3,5-Trimethylbenzene	108-67-8	23	2.0	U	2.0	U	2.0	U	2.0	U	--
1,3-Dichlorobenzene	541-73-1	600	2.0	U	2.0	U	2.0	U	2.0	U	--
1,3-Dichloropropane	142-28-9	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
1,4-Dichlorobenzene	106-46-7	75	2.0	U	2.0	U	2.0	U	2.0	U	--
2,2-Dichloropropane	594-20-7	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
2-Butanone	78-93-3	511	10.0	U	10	U	10	U	10	U	--
2-Chlorotoluene	95-49-8	100	2.0	U	2.0	U	2.0	U	2.0	U	--
2-Hexanone	591-78-6	NE	10.0	U	10	U	10	U	10	U	--
4-Chlorotoluene	106-43-4	100	2.0	U	2.0	U	2.0	U	2.0	U	--
4-Isopropyltoluene	99-87-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
4-Methyl-2-pentanone	108-10-1	NE	10.0	U	10	U	10	U	10	U	--
Acetone	67-64-1	950	10.0	U	10	U	10	U	10	U	--
Benzene	71-43-2	5	1.0	U	1.0	U	1.0	U	1.0	U	--
Bromobenzene	108-86-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Bromochloromethane	74-97-5	8	2.0	U	2.0	U	2.0	U	2.0	U	--
Bromodichloromethane	75-27-4	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Bromoform	75-25-2	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Bromomethane	74-83-9	5	2.0	U	2.0	U	2.0	U	2.0	U	--
Carbon disulfide	75-15-0	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Carbon tetrachloride	56-23-5	5	2.0	U	2.0	U	2.0	U	2.0	U	--
Chlorobenzene	108-90-7	100	2.0	U	2.0	U	2.0	U	2.0	U	--
Chloroethane	75-00-3	NE	5.0	U	5.0	U	5.0	U	5.0	U	--
Chloroform	67-66-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Chloromethane	74-87-3	NE	5.0	U	5.0	U	5.0	U	5.0	U	--
cis-1,2-Dichloroethene	156-59-2	70	2.0	U	2.0	U	2.0	U	2.0	U	--
cis-1,3-Dichloropropene	10061-01-5	NE	1.0	U	1.0	U	1.0	U	1.0	U	--
Dibromochloromethane	124-48-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Dibromomethane	74-95-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Dichlorodifluoromethane	75-71-8	NE	5.0	U	5.0	U	5.0	U	5.0	U	--
Diethyl ether	60-29-7	NE	5.0	U	5.0	U	5.0	U	5.0	U	--
Ethylbenzene	100-41-4	700	2.0	U	2.0	U	2.0	U	2.0	U	--
Hexachlorobutadiene	87-68-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Isopropylbenzene	98-82-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
m,p-Xylene	1330-20-7	10000	2.0	U	2.0	U	2.0	U	2.0	U	--
Methyl tert-butyl ether	1634-04-4	11	2.0	U	2.0	U	2.0	U	2.0	U	--
Methylene chloride	75-09-2	5	5.0	U	5.0	U	5.0	U	5.0	U	--
Naphthalene	91-20-3	0.5	5.0	U	5.0	U	5.0	U	5.0	U	--
n-Butylbenzene	104-51-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
n-Propylbenzene	103-65-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
o-Xylene	95-47-6	10000	2.0	U	2.0	U	2.0	U	2.0	U	--
sec-Butylbenzene	135-98-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Styrene	100-42-5	100	2.0	U	2.0	U	2.0	U	2.0	U	--
tert-Butylbenzene	98-06-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Tetrachloroethene	127-18-4	5	2.0	U	2.0	U	2.0	U	2.0	U	--
Tetrahydrofuran	109-99-9	NE	10.0	U	10	U	10	U	10	U	--
Toluene	108-88-3	1000	2.0	U	2.0	U	2.0	U	2.0	U	--
Total Trimethylbenzene	25551-13-7	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Total Xylene	1330-20-7	10000	1.0	U	1.0	U	1.0	U	1.0	U	--
trans-1,2-Dichloroethene	156-60-5	100	2.0	U	2.0	U	2.0	U	2.0	U	--
trans-1,3-Dichloropropene	10061-02-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Trichloroethene	79-01-6	5	2.0	U	2.0	U	2.0	U	2.0	U	--
Trichlorofluoromethane	75-69-4	NE	2.0	U	2.0	U	2.0	U	2.0	U	--
Vinyl chloride	75-01-4	2	2.0	U	2.0	U	2.0	U	2.0	U	--

Table B-11
VOC Analytical Results – Groundwater Samples

Sample ID		VGES	AMR-PDB01		AMR-PDB02		AMR-PDB03		AMR-PDB04		AMR-PDB04-FD	
Sample Date	**CAS#**		**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**
		(µg/L)										
1,1,1,2-Tetrachloroethane	630-20-6	70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1,1-Trichloroethane	71-55-6	200	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1,2-Trichloroethane	79-00-5	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1-Dichloroethane	75-34-3	70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1-Dichloroethene	75-35-4	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,3-Trichlorobenzene	87-61-6	0.9	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,3-Trichloropropane	96-18-4	0.02	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,4-Trichlorobenzene	120-82-1	70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,4-Trimethylbenzene	95-63-6	23	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	0.2	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dibromoethane	106-93-4	0.05	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichlorobenzene	95-50-1	600	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichloroethane	107-06-2	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichloropropane	78-87-5	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,3,5-Trimethylbenzene	108-67-8	23	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,3-Dichlorobenzene	541-73-1	600	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,3-Dichloropropane	142-28-9	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,4-Dichlorobenzene	106-46-7	75	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
2,2-Dichloropropane	594-20-7	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
2-Butanone	78-93-3	511	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	95-49-8	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
2-Hexanone	591-78-6	NE	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	106-43-4	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
4-Isopropyltoluene	99-87-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
4-Methyl-2-pentanone	108-10-1	NE	10	U	10	U	10	U	10	U	10	U
Acetone	67-64-1	950	10	U	10	U	10	U	10	U	10	U
Benzene	71-43-2	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromochloromethane	74-97-5	8	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromodichloromethane	75-27-4	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromoform	75-25-2	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromomethane	74-83-9	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Carbon disulfide	75-15-0	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Carbon tetrachloride	56-23-5	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chlorobenzene	108-90-7	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chloroethane	75-00-3	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Chloroform	67-66-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chloromethane	74-87-3	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	156-59-2	70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
cis-1,3-Dichloropropene	10061-01-5	NE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Dibromomethane	74-95-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Dichlorodifluoromethane	75-71-8	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Diethyl ether	60-29-7	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Ethylbenzene	100-41-4	700	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Hexachlorobutadiene	87-68-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Isopropylbenzene	98-82-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
m,p-Xylene	1330-20-7	10000	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Methyl tert-butyl ether	1634-04-4	11	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Methylene chloride	75-09-2	5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Naphthalene	91-20-3	0.5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
n-Butylbenzene	104-51-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
n-Propylbenzene	103-65-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
o-Xylene	95-47-6	10000	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
sec-Butylbenzene	135-98-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Styrene	100-42-5	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
tert-Butylbenzene	98-06-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Tetrachloroethene	127-18-4	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Tetrahydrofuran	109-99-9	NE	10	U	10	U	10	U	10	U	10	U
Toluene	108-88-3	1000	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Total Trimethylbenzene	25551-13-7	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Total Xylene	1330-20-7	10000	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
trans-1,2-Dichloroethene	156-60-5	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
trans-1,3-Dichloropropene	10061-02-6	NE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	79-01-6	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Trichlorofluoromethane	75-69-4	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vinyl chloride	75-01-4	2	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U

Table B-11
VOC Analytical Results – Groundwater Samples

SampleID		**VGES**	**GW-GW-3**		**GW-GW-5**		**GW-MW-11**		**GW-MW-12**		**GW-MW-13**	
Sample Date	**CAS#**		**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/11/2011**	**Q**
		(µg/L)										
1,1,1,2-Tetrachloroethane	630-20-6	70	2	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1,1-Trichloroethane	71-55-6	200	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1,2-Trichloroethane	79-00-5	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1-Dichloroethane	75-34-3	70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,1-Dichloroethene	75-35-4	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,3-Trichlorobenzene	87-61-6	0.9	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,3-Trichloropropane	96-18-4	0.02	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,4-Trichlorobenzene	120-82-1	70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2,4-Trimethylbenzene	95-63-6	23	2.0	U	2.0	U	**11**		2.0	U	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	0.2	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dibromoethane	106-93-4	0.05	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichlorobenzene	95-50-1	600	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichloroethane	107-06-2	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichloropropane	78-87-5	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,3,5-Trimethylbenzene	108-67-8	23	2.0	U	2.0	U	**5.0**		2.0	U	2.0	U
1,3-Dichlorobenzene	541-73-1	600	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,3-Dichloropropane	142-28-9	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
1,4-Dichlorobenzene	106-46-7	75	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
2,2-Dichloropropane	594-20-7	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
2-Butanone	78-93-3	511	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	95-49-8	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
2-Hexanone	591-78-6	NE	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	106-43-4	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
4-Isopropyltoluene	99-87-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
4-Methyl-2-pentanone	108-10-1	NE	10	U	10	U	10	U	10	U	10	U
Acetone	67-64-1	950	10	U	10	U	**16**		10	U	10	U
Benzene	71-43-2	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromochloromethane	74-97-5	8	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromodichloromethane	75-27-4	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromoform	75-25-2	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Bromomethane	74-83-9	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Carbon disulfide	75-15-0	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Carbon tetrachloride	56-23-5	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chlorobenzene	108-90-7	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chloroethane	75-00-3	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Chloroform	67-66-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chloromethane	74-87-3	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	156-59-2	70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
cis-1,3-Dichloropropene	10061-01-5	NE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Dibromomethane	74-95-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Dichlorodifluoromethane	75-71-8	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Diethyl ether	60-29-7	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Ethylbenzene	100-41-4	700	2.0	U	2.0	U	**2.7**		2.0	U	2.0	U
Hexachlorobutadiene	87-68-3	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Isopropylbenzene	98-82-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
m,p-Xylene	1330-20-7	10000	2.0	U	2.0	U	**4.0**		2.0	U	2.0	U
Methyl tert-butyl ether	1634-04-4	11	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Methylene chloride	75-09-2	5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Naphthalene	91-20-3	0.5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
n-Butylbenzene	104-51-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
n-Propylbenzene	103-65-1	NE	2.0	U	2.0	U	**2.6**		2.0	U	2.0	U
o-Xylene	95-47-6	10000	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
sec-Butylbenzene	135-98-8	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Styrene	100-42-5	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
tert-Butylbenzene	98-06-6	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Tetrachloroethene	127-18-4	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Tetrahydrofuran	109-99-9	NE	10	U	10	U	10	U	10	U	10	U
Toluene	108-88-3	1000	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Total Trimethylbenzene	25551-13-7	NE	2.0	U	2.0	U	**16**		2.0	U	2.0	U
Total Xylene	1330-20-7	10000	2.0	U	2.0	U	**4.0**		2.0	U	2.0	U
trans-1,2-Dichloroethene	156-60-5	100	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
trans-1,3-Dichloropropene	10061-02-6	NE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	79-01-6	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Trichlorofluoromethane	75-69-4	NE	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vinyl chloride	75-01-4	2	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U

Table B-11
VOC Analytical Results – Groundwater Samples

Sample ID		VGES	GW-MW-13-FD		GW-MW-14		GW-MW-15		GW-TB	
Sample Date	CAS#		8/11/2011	Q	8/11/2011	Q	8/10/2011	Q	8/10/2011	Q
		(µg/L)								
1,1,1,2-Tetrachloroethane	630-20-6	70	2.0	U	2.0	U	2.0	U	2.0	U
1,1,1-Trichloroethane	71-55-6	200	2.0	U	2.0	U	2.0	U	2.0	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	2.0	U	2.0	U	2.0	U	2.0	U
1,1,2-Trichloroethane	79-00-5	5	2.0	U	2.0	U	2.0	U	2.0	U
1,1-Dichloroethane	75-34-3	70	2.0	U	2.0	U	2.0	U	2.0	U
1,1-Dichloroethene	75-35-4	7	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	NE	2.0	U	2.0	U	2.0	U	2.0	U
1,2,3-Trichlorobenzene	87-61-6	0.9	2.0	U	2.0	U	2.0	U	2.0	U
1,2,3-Trichloropropane	96-18-4	0.02	2.0	U	2.0	U	2.0	U	2.0	U
1,2,4-Trichlorobenzene	120-82-1	70	2.0	U	2.0	U	2.0	U	2.0	U
1,2,4-Trimethylbenzene	95-63-6	23	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	0.2	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dibromoethane	106-93-4	0.05	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichlorobenzene	95-50-1	600	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichloroethane	107-06-2	5	2.0	U	2.0	U	2.0	U	2.0	U
1,2-Dichloropropane	78-87-5	5	2.0	U	2.0	U	2.0	U	2.0	U
1,3,5-Trimethylbenzene	108-67-8	23	2.0	U	2.0	U	2.0	U	2.0	U
1,3-Dichlorobenzene	541-73-1	600	2.0	U	2.0	U	2.0	U	2.0	U
1,3-Dichloropropane	142-28-9	NE	2.0	U	2.0	U	2.0	U	2.0	U
1,4-Dichlorobenzene	106-46-7	75	2.0	U	2.0	U	2.0	U	2.0	U
2,2-Dichloropropane	594-20-7	NE	2.0	U	2.0	U	2.0	U	2.0	U
2-Butanone	78-93-3	511	10	U	10	U	10	U	10	U
2-Chlorotoluene	95-49-8	100	2.0	U	2.0	U	2.0	U	2.0	U
2-Hexanone	591-78-6	NE	10	U	10	U	10	U	10	U
4-Chlorotoluene	106-43-4	100	2.0	U	2.0	U	2.0	U	2.0	U
4-Isopropyltoluene	99-87-6	NE	2.0	U	2.0	U	2.0	U	2.0	U
4-Methyl-2-pentanone	108-10-1	NE	10	U	10	U	10	U	10	U
Acetone	67-64-1	950	10	U	**16**		10	U	10	U
Benzene	71-43-2	5	1.0	U	**75**		1.0	U	1.0	U
Bromobenzene	108-86-1	NE	2.0	U	2.0	U	2.0	U	2.0	U
Bromochloromethane	74-97-5	8	2.0	U	2.0	U	2.0	U	2.0	U
Bromodichloromethane	75-27-4	NE	2.0	U	2.0	U	2.0	U	2.0	U
Bromoform	75-25-2	NE	2.0	U	2.0	U	2.0	U	2.0	U
Bromomethane	74-83-9	5	2.0	U	2.0	U	2.0	U	2.0	U
Carbon disulfide	75-15-0	NE	2.0	U	2.0	U	2.0	U	2.0	U
Carbon tetrachloride	56-23-5	5	2.0	U	2.0	U	2.0	U	2.0	U
Chlorobenzene	108-90-7	100	2.0	U	2.0	U	2.0	U	2.0	U
Chloroethane	75-00-3	NE	5.0	U	5.0	U	5.0	U	5.0	U
Chloroform	67-66-3	NE	2.0	U	2.0	U	2.0	U	2.0	U
Chloromethane	74-87-3	NE	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	156-59-2	70	2.0	U	2.0	U	2.0	U	2.0	U
cis-1,3-Dichloropropene	10061-01-5	NE	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	NE	2.0	U	2.0	U	2.0	U	2.0	U
Dibromomethane	74-95-3	NE	2.0	U	2.0	U	2.0	U	2.0	U
Dichlorodifluoromethane	75-71-8	NE	5.0	U	5.0	U	5.0	U	5.0	U
Diethyl ether	60-29-7	NE	5.0	U	5.0	U	5.0	U	5.0	U
Ethylbenzene	100-41-4	700	2.0	U	2.0	U	2.0	U	2.0	U
Hexachlorobutadiene	87-68-3	NE	2.0	U	2.0	U	2.0	U	2.0	U
Isopropylbenzene	98-82-8	NE	2.0	U	2.0	U	2.0	U	2.0	U
m,p-Xylene	1330-20-7	10000	2.0	U	2.0	U	2.0	U	2.0	U
Methyl tert-butyl ether	1634-04-4	11	2.0	U	2.0	U	2.0	U	2.0	U
Methylene chloride	75-09-2	5	5.0	U	5.0	U	5.0	U	5.0	U
Naphthalene	91-20-3	0.5	5.0	U	5.0	U	5.0	U	5.0	U
n-Butylbenzene	104-51-8	NE	2.0	U	2.0	U	2.0	U	2.0	U
n-Propylbenzene	103-65-1	NE	2.0	U	2.0	U	2.0	U	2.0	U
o-Xylene	95-47-6	10000	2.0	U	2.0	U	2.0	U	2.0	U
sec-Butylbenzene	135-98-8	NE	2.0	U	2.0	U	2.0	U	2.0	U
Styrene	100-42-5	100	2.0	U	2.0	U	2.0	U	2.0	U
tert-Butylbenzene	98-06-6	NE	2.0	U	2.0	U	2.0	U	2.0	U
Tetrachloroethene	127-18-4	5	2.0	U	2.0	U	2.0	U	2.0	U
Tetrahydrofuran	109-99-9	NE	10	U	10	U	10	U	10	U
Toluene	108-88-3	1000	2.0	U	**2.4**		2.0	U	2.0	U
Total Trimethylbenzene	25551-13-7	NE	2.0	U	2.0	U	2.0	U	2.0	U
Total Xylene	1330-20-7	10000	2.0	U	2.0	U	2.0	U	2.0	U
trans-1,2-Dichloroethene	156-60-5	100	2.0	U	2.0	U	2.0	U	2.0	U
trans-1,3-Dichloropropene	10061-02-6	NE	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	79-01-6	5	2.0	U	2.0	U	2.0	U	2.0	U
Trichlorofluoromethane	75-69-4	NE	2.0	U	2.0	U	2.0	U	2.0	U
Vinyl chloride	75-01-4	2	2.0	U	2.0	U	2.0	U	2.0	U

Key:
VGES - Vermont Groundwater Enforcement Standard, July 2019
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed
NS - Sample not analyzed for compound
RPD - relative percent difference

Table B-13
VOC Analytical Results – Pore Water Samples

Sample ID	**AMR-PDB01**		**AMR-PDB02**		**AMR-PDB03**		**AMR-PDB04**		**AMR-PDB04-DUP**		**AMR-PDB-Trip Blank**	
Sample Date		**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	**Q**	**5/5/2010**	
	µg/l											
Dichlorodifluoromethane	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Chloromethane	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Vinyl chloride	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Chloroethane	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Bromomethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Trichlorofluoromethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Diethyl ether	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Acetone	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U
1,1-Dichloroethene	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Carbon disulfide	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Methylene chloride	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Methyl tert-butyl ether	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
trans-1,2-Dichloroethene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,1-Dichloroethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
2-Butanone	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U
2,2-Dichloropropane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
cis-1,2-Dichloroethene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Chloroform	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Tetrahydrofuran	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U
Bromochloromethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,1,1-Trichloroethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,1-Dichloropropene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Carbon tetrachloride	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,2-Dichloroethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Benzene	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Trichloroethene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,2-Dichloropropane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Bromodichloromethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Dibromomethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
4-Methyl-2-pentanone	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U
cis-1,3-Dichloropropene	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Toluene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
trans-1,3-Dichloropropene	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
1,1,2-Trichloroethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,2-Dibromoethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
2-Hexanone	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U
1,3-Dichloropropane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Tetrachloroethene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Dibromochloromethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Chlorobenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,1,1,2-Tetrachloroethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Ethylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
m,p-Xylene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
o-Xylene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Styrene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Bromoform	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Isopropylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,1,2,2-Tetrachloroethane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,2,3-Trichloropropane	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Bromobenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
n-Propylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
2-Chlorotoluene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
4-Chlorotoluene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,3,5-Trimethylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
tert-Butylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,2,4-Trimethylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
sec-Butylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
4-Isopropyltoluene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,3-Dichlorobenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,4-Dichlorobenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
n-Butylbenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,2-Dichlorobenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
1,2-Dibromo-3-chloropropane	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
1,2,4-Trichlorobenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Hexachlorobutadiene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U
Naphthalene	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
1,2,3-Trichlorobenzene	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U

Key:
µg/l - micrograms per liter
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed

Table B-12
VOC Analytical Results – Soil Gas Samples

Sample ID	VIS- Resident	VIS - Non-Resident	TAB-SG1		TAB-SGS-SG2-1.0		TAB-SGS-SG2-1.0-FD		TAB-SGS-SG3-1.0		TAB-SG4	
Sample Date				**Q**		**Q**		**Q**		**Q**		**Q**
		(µg/m^3)										
Dichlorodifluoromethane	NE	NE	3.0		4.9	U	4.9	U	15	U	4.9	U
1,2-Dichlorotetrafluoroethane	NE	NE	1.4	U	2.8	U	2.8	U	8.4	U	2.8	U
Chloromethane	NE	NE	1.0	U	2.1	U	2.1	U	6.2	U	2.1	U
Vinyl Chloride	3.7	62	0.51	U	1.0	U	1.0	U	3.1	U	1.0	U
1,3-Butadiene	NE	NE	1.1	U	2.2	U	2.2	U	6.6	U	2.2	U
Bromomethane	NE	NE	0.78	U	1.6	U	1.6	U	4.7	U	1.6	U
Chloroethane	330000	1200000	1.3	U	2.6	U	2.6	U	7.9	U	2.6	U
Bromoethene	NE	NE	0.87	U	1.7	U	1.7	U	5.2	U	1.7	U
Trichlorofluoromethane	NE	NE	**1.5**		9.0	D	**8.4**		**10**		2.2	U
Freon TF	NE	NE	1.5	U	3.1	U	3.1	U	9.2	U	3.1	U
1,1-Dichloroethene	NE	NE	0.79	U	1.6	U	1.6	U	4.8	U	1.6	U
Acetone	NE	NE	**52**		260	D	240	D	760	D	**120**	
Isopropyl Alcohol	NE	NE	**37**		96	D	**52**		**140**		**52**	
Carbon Disulfide	NE	NE	**4.0**		7.5	D	**4.4**		9.3	U	**8.1**	
3-Chloropropene	NE	NE	1.6	U	3.1	U	3.1	U	9.4	U	3.1	U
Methylene Chloride	2000	27000	1.7	U	3.5	U	3.5	U	10	U	3.5	U
tert-Butyl Alcohol	NE	NE	15	U	30	U	30	U	91	U	30	U
Methyl tert-Butyl Ether	NE	NE	1.8	U	3.6	U	3.6	U	11	U	3.6	U
trans-1,2-Dichloroethene	NE	NE	0.79	U	1.6	U	1.6	U	4.8	U	1.6	U
n-Hexane	NE	NE	**6.0**		3.5	U	3.5	U	**46**		3.5	U
1,1-Dichloroethane	NE	NE	0.81	U	1.6	U	1.6	U	4.9	U	1.6	U
Methyl Ethyl Ketone	NE	NE	**14**		16	D	**14**		**18**		**32**	
cis-1,2-Dichloroethene	NE	NE	0.79	U	1.6	U	1.6	U	4.8	U	1.6	U
Tetrahydrofuran	NE	NE	0.79	U	29	U	29	U	88	U	1.6	U
Chloroform	1.3	12	0.98	U	2.0	U	2.0	U	5.9	U	2.0	U
1,1,1-Trichloroethane	NE	NE	15	U	2.2	U	2.2	U	6.5	U	29	U
Cyclohexane	NE	NE	**3.0**		1.4	U	1.4	U	4.1	U	2.2	U
Carbon Tetrachloride	5.7	45	**0.93**		2.5	U	2.5	U	7.5	U	1.4	U
2,2,4-Trimethylpentane	NE	NE	1.3	U	1.9	U	1.9	U	5.6	U	2.5	U
Benzene	4.3	35	**3.0**		**2.2**		**2.7**		**9.3**		1.9	U
1,2-Dichloroethene (total)	NE	NE	**2.0**		1.6	U	1.6	U	4.8	U	**1.4**	
1,2-Dichloroethane	NE	NE	0.81	U	1.6	U	1.6	U	4.9	U	1.6	U
n-Heptane	NE	NE	**6.1**		**18**		**26**		**23**		**2.4**	
Trichloroethene	NE	NE	1.1	U	2.1	U	2.1	U	6.4	U	2.1	U
1,2-Dichloropropane	NE	NE	0.92	U	1.8	U	1.8	U	5.5	U	1.8	U
1,4-Dioxane	NE	NE	18	U	36	U	36	U	110	U	36	U
Bromodichloromethane	NE	NE	1.3	U	2.7	U	2.7	U	8.0	U	2.7	U
cis-1,3-Dichloropropene	NE	NE	0.91	U	1.8	U	1.8	U	5.4	U	1.8	U
Methyl Isobutyl Ketone	NE	NE	**3.1**		4.1	U	4.1	U	12	U	4.1	U
Toluene	NE	NE	**21**		**30**		**41**		**5.3**		**13**	
trans-1,3-Dichloropropene	NE	NE	0.91	U	1.8	U	1.8	U	5.4	U	1.8	U
1,1,2-Trichloroethane	NE	NE	1.1	U	2.2	U	2.2	U	6.5	U	2.2	U
Tetrachloroethene	21	170	1.4	U	2.7	U	2.7	U	8.1	U	2.7	U
Methyl Butyl Ketone	NE	NE	2.0	U	4.1	U	4.1	U	12	U	4.1	U
Dibromochloromethane	NE	NE	1.7	U	3.4	U	3.4	U	10	U	3.4	U
1,2-Dibromoethane	NE	NE	1.5	U	3.1	U	3.1	U	9.2	U	3.1	U
Chlorobenzene	NE	NE	0.92	U	1.8	U	1.8	U	5.5	U	1.8	U
Ethylbenzene	13	110	**5.6**		**2.0**		**2.5**		5.2	U	**4.3**	
Xylene (m,p)	NE	NE	**20**		**6.1**		**7.4**		13	U	**16**	
Xylene (o)	NE	NE	**6.1**		**2.5**		**3.0**		5.2	U	**5.2**	
Styrene	NE	NE	**26**		1.7	U	1.7	U	5.1	U	**22**	
Bromoform	NE	NE	0.85	U	4.1	U	4.1	U	12	U	1.7	U
1,1,2,2-Tetrachloroethane	NE	NE	2.1	U	2.7	U	2.7	U	8.2	U	4.1	U
Xylene (total)	NE	NE	1.4	U	**8.7**		**10**		5.2	U	2.7	U
4-Ethyltoluene	NE	NE	**2.5**		2.0	U	2.0	U	5.9	U	**3.1**	
1,3,5-Trimethylbenzene	2000	7000	**2.8**		2.0	U	2.0	U	5.9	U	**3.0**	
2-Chlorotoluene	NE	NE	1.0	U	2.1	U	2.1	U	6.2	U	2.1	U
1,2,4-Trimethylbenzene	2000	7000	**7.4**		**2.4**		**2.6**		5.9	U	**8.4**	
1,3-Dichlorobenzene	NE	NE	1.2	U	2.4	U	2.4	U	7.2	U	2.4	U
1,4-Dichlorobenzene	NE	NE	1.2	U	2.4	U	2.4	U	7.2	U	2.4	U
1,2-Dichlorobenzene	NE	NE	1.2	U	2.4	U	2.4	U	7.2	U	2.4	U
1,2,4-Trichlorobenzene	NE	NE	3.7	U	7.4	U	7.4	U	22	U	7.4	U
Hexachlorobutadiene	NE	NE	2.1	U	4.3	U	4.3	U	13	U	4.3	U

Table B-12
VOC Analytical Results – Soil Gas Samples

Sample ID	VIS- Resident	VIS - Non-Resident	TAB-SGS-SG05-1.5		TAB-SGS-SG06-1.5		TAB-SG7		TAB-SG7-FD		TAB-SGS-SG08-1.5	
Sample Date				**Q**		**Q**		**Q**		**Q**		**Q**
		(µg/m³)										
Dichlorodifluoromethane	NE	NE	9.9	U	2.5	U	2.5	U	3.7	U	8.9	U
1,2-Dichlorotetrafluoroethane	NE	NE	5.6	U	1.4	U	1.4	U	2.1	U	4.9	U
Chloromethane	NE	NE	4.1	U	1.0	U	1.0	U	1.5	U	3.7	U
Vinyl Chloride	3.7	62	2.0	U	0.51	U	0.51	U	0.77	U	1.8	U
1,3-Butadiene	NE	NE	4.4	U	1.2		1.1	U	1.7	U	4.0	U
Bromomethane	NE	NE	3.1	U	0.78	U	0.78	U	1.2	U	2.7	U
Chloroethane	330000	1200000	5.3	U	1.3	U	1.3	U	2.0	U	4.7	U
Bromoethene	NE	NE	3.5	U	0.87	U	0.87	U	1.3	U	3.1	U
Trichlorofluoromethane	NE	NE	**9.0**		**7.3**		**1.2**		1.7	U	**11**	
Freon TF	NE	NE	6.1	U	1.5	U	1.5	U	2.3	U	5.4	U
1,1-Dichloroethene	NE	NE	3.2	U	0.79	U	0.79	U	1.2	U	2.8	U
Acetone	NE	NE	**260**		**59**		**76**		**97**		**260**	
Isopropyl Alcohol	NE	NE	49	U	**42**		**44**		**34**		44	U
Carbon Disulfide	NE	NE	**8.7**		**8.4**		**6.2**		**5.0**		**12**	
3-Chloropropene	NE	NE	6.3	U	1.6	U	1.6	U	2.3	U	5.6	U
Methylene Chloride	2000	27000	6.9	U	**3.0**		1.7	U	2.6	U	6.3	U
tert-Butyl Alcohol	NE	NE	61	U	15	U	15	U	23	U	55	U
Methyl tert-Butyl Ether	NE	NE	7.2	U	1.8	U	1.8	U	2.7	U	6.5	U
trans-1,2-Dichloroethene	NE	NE	3.2	U	0.79	U	0.79	U	1.2	U	2.8	U
n-Hexane	NE	NE	7.0	U	**11**		1.8	U	2.6	U	6.3	U
1,1-Dichloroethane	NE	NE	3.2	U	0.81	U	0.81	U	1.2	U	2.8	U
Methyl Ethyl Ketone	NE	NE	**13**		**8.6**		**21**		**29**		**19**	
cis-1,2-Dichloroethene	NE	NE	3.2	U	0.79	U	0.79	U	1.2	U	2.8	U
Tetrahydrofuran	NE	NE	59	U	15	U	0.79	U	1.2	U	53	U
Chloroform	1.3	12	3.9	U	0.98	U	0.98	U	1.5	U	3.4	U
1,1,1-Trichloroethane	NE	NE	4.4	U	**4.7**		15	U	22	U	3.8	U
Cyclohexane	NE	NE	**5.5**		**1.8**		1.1	U	1.6	U	**5.2**	
Carbon Tetrachloride	5.7	45	5.0	U	1.3	U	0.69	U	1.0	U	4.4	U
2,2,4-Trimethylpentane	NE	NE	3.7	U	0.93	U	1.3	U	1.9	U	3.3	U
Benzene	4.3	35	**4.8**		**2.7**		0.93	U	1.4	U	**2.9**	
1,2-Dichloroethene (total)	NE	NE	3.2	U	0.79	U	**0.89**		**1.3**		2.8	U
1,2-Dichloroethane	NE	NE	3.2	U	0.81	U	0.81	U	1.2	U	2.8	U
n-Heptane	NE	NE	**7.0**		**5.7**		**1.1**		**2.0**		2.9	U
Trichloroethene	NE	NE	4.3	U	1.1	U	1.1	U	1.6	U	3.8	U
1,2-Dichloropropane	NE	NE	3.7	U	0.92	U	0.92	U	1.4	U	3.2	U
1,4-Dioxane	NE	NE	72	U	18	U	18	U	27	U	65	U
Bromodichloromethane	NE	NE	5.4	U	1.3	U	1.3	U	2.0	U	**4.7**	U
cis-1,3-Dichloropropene	NE	NE	3.6	U	0.91	U	0.91	U	1.4	U	3.2	U
Methyl Isobutyl Ketone	NE	NE	8.2	U	2.0	U	**2.9**		**3.8**		7.4	U
Toluene	NE	NE	**60**		**64**		**6.4**		**11**		**57**	
trans-1,3-Dichloropropene	NE	NE	3.6	U	0.91	U	0.91	U	1.4	U	3.2	U
1,1,2-Trichloroethane	NE	NE	4.4	U	1.1	U	1.1	U	1.6	U	3.8	U
Tetrachloroethene	21	170	5.4	U	1.4	U	1.4	U	2.0	U	4.7	U
Methyl Butyl Ketone	NE	NE	8.2	U	2.0	U	2.0	U	3.1	U	7.4	U
Dibromochloromethane	NE	NE	6.8	U	1.7	U	1.7	U	2.6	U	6.0	U
1,2-Dibromoethane	NE	NE	6.1	U	1.5	U	1.5	U	2.3	U	5.4	U
Chlorobenzene	NE	NE	3.7	U	0.92	U	0.92	U	1.4	U	3.2	U
Ethylbenzene	13	110	3.5	U	**2.8**		**2.2**		**3.7**		3.0	U
Xylene (m,p)	NE	NE	8.7	U	**9.6**		**7.8**		**13**		**7.8**	
Xylene (o)	NE	NE	3.5	U	**3.0**		**2.6**		**4.3**		3.0	U
Styrene	NE	NE	3.4	U	0.85	U	**10**		**18**		3.0	U
Bromoform	NE	NE	8.3	U	2.1	U	0.85	U	1.3	U	7.2	U
1,1,2,2-Tetrachloroethane	NE	NE	5.5	U	1.4	U	2.1	U	3.1	U	4.8	U
Xylene (total)	NE	NE	3.5	U	**13**		1.4	U	2.1	U	**7.8**	
4-Ethyltoluene	NE	NE	3.9	U	0.98	U	**1.2**		**2.4**		3.4	U
1,3,5-Trimethylbenzene	2000	7000	3.9	U	**1.6**		**1.5**		**2.7**		**3.7**	
2-Chlorotoluene	NE	NE	4.1	U	1.0	U	1.0	U	1.6	U	3.6	U
1,2,4-Trimethylbenzene	2000	7000	**6.4**		**3.7**		**4.5**		**7.4**		**8.8**	
1,3-Dichlorobenzene	NE	NE	4.8	U	1.2	U	1.2	U	1.8	U	4.2	U
1,4-Dichlorobenzene	NE	NE	4.8	U	1.2	U	1.2	U	1.8	U	4.2	U
1,2-Dichlorobenzene	NE	NE	4.8	U	1.2	U	1.2	U	1.8	U	4.2	U
1,2,4-Trichlorobenzene	NE	NE	15	U	3.7	U	3.7	U	5.6	U	13	U
Hexachlorobutadiene	NE	NE	8.5	U	2.1	U	2.1	U	3.2	U	7.5	U

Table B-12
VOC Analytical Results – Soil Gas Samples

Sample ID	VIS- Resident	VIS - Non-Resident	TAB-SGS-SG09-1.5		TAB-SGS-SG11-1.5		TAB-SGS-SG12-1.5		TAB-SG13		TAB-SG14	
Sample Date				Q		Q		Q		Q		Q
		(µg/m³)										
Dichlorodifluoromethane	NE	NE	12	U	2.5	U	7.4	U	2.5	U	2.5	U
1,2-Dichlorotetrafluoroethane	NE	NE	7.0	U	1.4	U	4.2	U	1.4	U	1.4	U
Chloromethane	NE	NE	5.2	U	1.0	U	3.1	U	1.0	U	1.0	U
Vinyl Chloride	3.7	62	2.6	U	0.51	U	1.5	U	0.51	U	0.51	U
1,3-Butadiene	NE	NE	**8.2**		1.1	U	3.3	U	1.1	U	1.1	U
Bromomethane	NE	NE	3.9	U	0.78	U	2.3	U	0.78	U	0.78	U
Chloroethane	330000	1200000	6.6	U	1.3	U	4.0	U	1.3	U	1.3	U
Bromoethene	NE	NE	4.4	U	0.87	U	2.6	U	0.87	U	0.87	U
Trichlorofluoromethane	NE	NE	**7.3**		**7.9**		**12**		**1.3**		**1.2**	
Freon TF	NE	NE	7.7	U	1.5	U	4.6	U	1.5	U	1.5	U
1,1-Dichloroethene	NE	NE	4.0	U	0.79	U	2.4	U	0.79	U	0.79	U
Acetone	NE	NE	**380**		**55**		**290**		**74**		**38**	
Isopropyl Alcohol	NE	NE	61	U	**29**		37	U	**29**		**32**	
Carbon Disulfide	NE	NE	**16**		**11**		**12**		**3.7**		**3.7**	
3-Chloropropene	NE	NE	7.8	U	1.6	U	4.7	U	1.6	U	1.6	U
Methylene Chloride	2000	27000	8.7	U	1.7	U	5.2	U	1.7	U	1.7	U
tert-Butyl Alcohol	NE	NE	76	U	15	U	45	U	15	U	15	U
Methyl tert-Butyl Ether	NE	NE	9.0	U	1.8	U	5.4	U	1.8	U	1.8	U
trans-1,2-Dichloroethene	NE	NE	4.0	U	0.79	U	2.4	U	0.79	U	0.79	U
n-Hexane	NE	NE	**21**		**4.2**		5.3	U	**3.5**		**1.8**	
1,1-Dichloroethane	NE	NE	4.0	U	0.81	U	2.4	U	0.81	U	0.81	U
Methyl Ethyl Ketone	NE	NE	**9.7**		**7.1**		**7.4**		**27**		**12**	
cis-1,2-Dichloroethene	NE	NE	4.0	U	0.79	U	2.4	U	0.79	U	0.79	U
Tetrahydrofuran	NE	NE	74	U	15	U	44	U	0.79	U	0.79	U
Chloroform	1.3	12	4.9	U	0.98	U	2.9	U	0.98	U	0.98	U
1,1,1-Trichloroethane	NE	NE	5.5	U	**1.3**		3.3	U	15	U	15	U
Cyclohexane	NE	NE	**7.2**		**1.3**		2.1	U	1.1	U	1.1	U
Carbon Tetrachloride	5.7	45	6.3	U	1.3	U	3.8	U	0.69	U	0.69	U
2,2,4-Trimethylpentane	NE	NE	4.7	U	0.93	U	2.8	U	1.3	U	1.3	U
Benzene	4.3	35	**6.4**		**0.99**		**2.8**		0.93	U	**1.2**	
1,2-Dichloroethene (total)	NE	NE	4.0	U	0.79	U	2.4	U	**0.99**		**1.5**	
1,2-Dichloroethane	NE	NE	4.0	U	0.81	U	2.4	U	0.81	U	0.81	U
n-Heptane	NE	NE	**17**		**1.8**		**2.6**		**3.6**		**1.1**	
Trichloroethene	NE	NE	5.4	U	1.1	U	3.2	U	1.1	U	1.1	U
1,2-Dichloropropane	NE	NE	4.6	U	0.92	U	2.8	U	0.92	U	0.92	U
1,4-Dioxane	NE	NE	90	U	18	U	54	U	18	U	18	U
Bromodichloromethane	NE	NE	6.7	U	1.3	U	4.0	U	1.3	U	1.3	U
cis-1,3-Dichloropropene	NE	NE	4.5	U	0.91	U	2.7	U	0.91	U	0.91	U
Methyl Isobutyl Ketone	NE	NE	10	U	2.0	U	6.1	U	**3.9**		**2.1**	
Toluene	NE	NE	**45**		**64**		**64**		**4.5**		**7.2**	
trans-1,3-Dichloropropene	NE	NE	4.5	U	0.91	U	2.7	U	0.91	U	0.91	U
1,1,2-Trichloroethane	NE	NE	5.5	U	1.1	U	3.3	U	1.1	U	1.1	U
Tetrachloroethene	21	170	6.8	U	1.4	U	4.1	U	1.4	U	1.4	U
Methyl Butyl Ketone	NE	NE	10	U	2.0	U	6.1	U	2.0	U	2.0	U
Dibromochloromethane	NE	NE	8.5	U	1.7	U	5.1	U	1.7	U	1.7	U
1,2-Dibromoethane	NE	NE	7.7	U	1.5	U	4.6	U	1.5	U	1.5	U
Chlorobenzene	NE	NE	4.6	U	0.92	U	2.8	U	0.92	U	0.92	U
Ethylbenzene	13	110	4.3	U	**1.8**		2.6	U	**2.1**		**3.3**	
Xylene (m,p)	NE	NE	**22**		**7.4**		**6.9**		**8.3**		**13**	
Xylene (o)	NE	NE	**9.6**		**2.0**		2.6	U	**3.1**		**4.8**	
Styrene	NE	NE	4.3	U	0.85	U	2.6	U	**12**		**18**	
Bromoform	NE	NE	10	U	2.1	U	6.2	U	0.85	U	0.85	U
1,1,2,2-Tetrachloroethane	NE	NE	6.9	U	1.4	U	4.1	U	2.1	U	2.1	U
Xylene (total)	NE	NE	**31**		**9.1**		**6.9**		1.4	U	1.4	U
4-Ethyltoluene	NE	NE	**32**		**1.2**		2.9	U	**2.5**		**2.8**	
1,3,5-Trimethylbenzene	2000	7000	**150**		**3.7**		**4.6**		**2.7**		**3.5**	
2-Chlorotoluene	NE	NE	5.2	U	1.0	U	3.1	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	2000	7000	**290**		**8.8**		**10**		**8.4**		**10**	
1,3-Dichlorobenzene	NE	NE	6.0	U	1.2	U	3.6	U	1.2	U	1.2	U
1,4-Dichlorobenzene	NE	NE	6.0	U	1.2	U	3.6	U	1.2	U	1.2	U
1,2-Dichlorobenzene	NE	NE	6.0	U	1.2	U	3.6	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	NE	NE	19	U	3.7	U	11	U	3.7	U	3.7	U
Hexachlorobutadiene	NE	NE	11	U	2.1	U	6.4	U	2.1	U	2.1	U

Table B-12
VOC Analytical Results – Soil Gas Samples

Sample ID	VIS- Resident	VIS - Non-Resident	TAB-SG15		TAB-SG16		TAB-SG17		TAB-SG18		TAB-SG19	
Sample Date				**Q**		**Q**		**Q**		**Q**		**Q**
		(µg/m³)										
Dichlorodifluoromethane	NE	NE	4.5	U	12	U	3.7	U	6.4	U	**2.5**	
1,2-Dichlorotetrafluoroethane	NE	NE	2.5	U	7.0	U	2.1	U	3.5	U	1.4	U
Chloromethane	NE	NE	1.9	U	5.2	U	1.5	U	2.7	U	1.0	U
Vinyl Chloride	3.7	62	0.92	U	2.6	U	0.77	U	1.3	U	0.51	U
1,3-Butadiene	NE	NE	2.0	U	5.5	U	1.7	U	2.9	U	**3.3**	
Bromomethane	NE	NE	1.4	U	3.9	U	1.2	U	1.9	U	0.78	U
Chloroethane	330000	1200000	2.4	U	6.6	U	2.0	U	3.4	U	1.3	U
Bromoethene	NE	NE	1.6	U	4.4	U	1.3	U	2.2	U	0.87	U
Trichlorofluoromethane	NE	NE	2.0	U	5.6	U	1.7	U	2.8	U	**1.2**	
Freon TF	NE	NE	2.8	U	7.7	U	2.3	U	3.8	U	1.5	U
1,1-Dichloroethene	NE	NE	1.4	U	4.0	U	1.2	U	2.0	U	0.79	U
Acetone	NE	NE	**130**		**430**		**76**		**160**		**50**	
Isopropyl Alcohol	NE	NE	**39**		61	U	**44**		**32**		**42**	
Carbon Disulfide	NE	NE	**6.9**		7.8	U	**5.3**		**4.0**		**6.5**	
3-Chloropropene	NE	NE	2.8	U	7.8	U	2.3	U	4.1	U	1.6	U
Methylene Chloride	2000	27000	3.1	U	8.7	U	**4.9**		4.5	U	1.7	U
tert-Butyl Alcohol	NE	NE	27	U	76	U	23	U	39	U	15	U
Methyl tert-Butyl Ether	NE	NE	3.2	U	9.0	U	2.7	U	4.7	U	1.8	U
trans-1,2-Dichloroethene	NE	NE	1.4	U	4.0	U	1.2	U	2.0	U	0.79	U
n-Hexane	NE	NE	3.2	U	8.8	U	**4.2**		4.6	U	**8.1**	
1,1-Dichloroethane	NE	NE	1.5	U	4.0	U	1.2	U	2.0	U	0.81	U
Methyl Ethyl Ketone	NE	NE	**41**		**140**		**24**		**56**		**5.6**	
cis-1,2-Dichloroethene	NE	NE	1.4	U	4.0	U	1.2	U	2.0	U	0.79	U
Tetrahydrofuran	NE	NE	1.4	U	4.0	U	1.2	U	2.0	U	0.79	U
Chloroform	1.3	12	1.8	U	4.9	U	**2.3**		2.4	U	0.98	U
1,1,1-Trichloroethane	NE	NE	27	U	74	U	22	U	38	U	15	U
Cyclohexane	NE	NE	2.0	U	**13**		**8.2**		2.7	U	1.1	U
Carbon Tetrachloride	5.7	45	1.2	U	3.4	U	**1.4**		1.7	U	**1.4**	
2,2,4-Trimethylpentane	NE	NE	2.3	U	6.3	U	1.9	U	3.1	U	1.3	U
Benzene	4.3	35	1.7	U	4.7	U	**3.0**		2.3	U	0.93	U
1,2-Dichloroethene (total)	NE	NE	1.2	U	**7.0**		**8.9**		1.6	U	**4.5**	
1,2-Dichloroethane	NE	NE	1.5	U	4.0	U	1.2	U	2.0	U	0.81	U
n-Heptane	NE	NE	1.5	U	**7.4**		**7.0**		2.0	U	**3.9**	
Trichloroethene	NE	NE	1.9	U	5.4	U	1.6	U	2.7	U	1.1	U
1,2-Dichloropropane	NE	NE	1.7	U	4.6	U	1.4	U	2.3	U	0.92	U
1,4-Dioxane	NE	NE	32	U	90	U	27	U	47	U	18	U
Bromodichloromethane	NE	NE	2.4	U	6.7	U	2.0	U	3.4	U	1.3	U
cis-1,3-Dichloropropene	NE	NE	1.6	U	4.5	U	1.4	U	2.3	U	0.91	U
Methyl Isobutyl Ketone	NE	NE	**5.7**		10	U	**4.5**		**7.4**		2.0	U
Toluene	NE	NE	**5.7**		**18**		**53**		**11**		**3.5**	
trans-1,3-Dichloropropene	NE	NE	1.6	U	4.5	U	1.4	U	2.3	U	0.91	U
1,1,2-Trichloroethane	NE	NE	2.0	U	5.5	U	1.6	U	2.7	U	1.1	U
Tetrachloroethene	21	170	2.4	U	6.8	U	2.0	U	3.4	U	1.4	U
Methyl Butyl Ketone	NE	NE	3.7	U	10	U	3.1	U	5.3	U	2.0	U
Dibromochloromethane	NE	NE	3.1	U	8.5	U	2.6	U	4.3	U	1.7	U
1,2-Dibromoethane	NE	NE	2.8	U	7.7	U	2.3	U	3.8	U	1.5	U
Chlorobenzene	NE	NE	1.7	U	4.6	U	1.4	U	2.3	U	0.92	U
Ethylbenzene	13	110	**2.4**		**4.8**		**13**		**5.6**		**1.1**	
Xylene (m,p)	NE	NE	**9.6**		**11**		**36**		**24**		**3.1**	
Xylene (o)	NE	NE	**3.7**		4.3	U	**11**		**9.1**		**1.3**	
Styrene	NE	NE	**13**		**11**		**48**		**34**		**4.3**	
Bromoform	NE	NE	1.5	U	4.3	U	1.3	U	2.1	U	0.85	U
1,1,2,2-Tetrachloroethane	NE	NE	3.7	U	10	U	3.1	U	5.2	U	2.1	U
Xylene (total)	NE	NE	2.5	U	6.9	U	2.1	U	3.4	U	1.4	U
4-Ethyltoluene	NE	NE	**2.3**		4.9	U	**13**		**5.9**		0.98	U
1,3,5-Trimethylbenzene	2000	7000	**2.8**		**6.4**		**4.9**		**7.9**		**1.1**	
2-Chlorotoluene	NE	NE	1.9	U	5.2	U	1.6	U	2.6	U	1.0	U
1,2,4-Trimethylbenzene	2000	7000	**10**		**23**		**14**		**23**		**3.6**	
1,3-Dichlorobenzene	NE	NE	2.2	U	6.0	U	1.8	U	3.0	U	1.2	U
1,4-Dichlorobenzene	NE	NE	2.2	U	6.0	U	1.8	U	3.0	U	1.2	U
1,2-Dichlorobenzene	NE	NE	2.2	U	6.0	U	1.8	U	3.0	U	1.2	U
1,2,4-Trichlorobenzene	NE	NE	6.7	U	19	U	5.6	U	9.6	U	3.7	U
Hexachlorobutadiene	NE	NE	3.8	U	11	U	3.2	U	5.3	U	2.1	U

Table B-12
VOC Analytical Results – Soil Gas Samples

Sample ID	**VIS- Resident**	**VIS - Non-Resident**	**TAB-SG20**		**TAB-SGS-TB01**		**TAB-SG-TB02**		**TRIP BLANK 03**	
Sample Date				**Q**		**Q**		**Q**		**Q**
		(µg/m³)								
Dichlorodifluoromethane	NE	NE	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichlorotetrafluoroethane	NE	NE	1.4	U	1.4	U	1.4	U	1.4	U
Chloromethane	NE	NE	1.0	U	**1.4**		**1.7**		1.0	U
Vinyl Chloride	3.7	62	0.51	U	0.51	U	0.51	U	0.51	U
1,3-Butadiene	NE	NE	**5.3**		1.1	U	1.1	U	1.1	U
Bromomethane	NE	NE	0.78	U	0.78	U	0.78	U	0.78	U
Chloroethane	330000	1200000	1.3	U	1.3	U	1.3	U	1.3	U
Bromoethene	NE	NE	0.87	U	0.87	U	0.87	U	0.87	U
Trichlorofluoromethane	NE	NE	**1.2**		1.1	U	1.1	U	1.1	U
Freon TF	NE	NE	1.5	U	1.5	U	1.5	U	1.5	U
1,1-Dichloroethene	NE	NE	0.79	U	0.79	U	0.79	U	0.79	U
Acetone	NE	NE	**31**		**18**		12	U	12	U
Isopropyl Alcohol	NE	NE	**29**		**17**		**27**		**27**	
Carbon Disulfide	NE	NE	**4.7**		**5.9**		**2.0**		**3.7**	
3-Chloropropene	NE	NE	1.6	U	1.6	U	1.6	U	1.6	U
Methylene Chloride	2000	27000	1.7	U	1.7	U	1.7	U	**2.7**	
tert-Butyl Alcohol	NE	NE	15	U	15	U	15	U	15	U
Methyl tert-Butyl Ether	NE	NE	1.8	U	1.8	U	1.8	U	1.8	U
trans-1,2-Dichloroethene	NE	NE	0.79	U	0.79	U	0.79	U	0.79	U
n-Hexane	NE	NE	**6.7**		1.8	U	1.8	U	**3.5**	
1,1-Dichloroethane	NE	NE	0.81	U	0.81	U	0.81	U	0.81	U
Methyl Ethyl Ketone	NE	NE	**5.6**		**2.9**		1.5	U	1.5	U
cis-1,2-Dichloroethene	NE	NE	0.79	U	0.79	U	0.79	U	0.79	U
Tetrahydrofuran	NE	NE	0.79	U	15	U	15	U	0.79	U
Chloroform	1.3	12	**1.3**		0.98	U	0.98	U	0.98	U
1,1,1-Trichloroethane	NE	NE	15	U	1.1	U	1.1	U	15	U
Cyclohexane	NE	NE	1.1	U	0.69	U	0.69	U	**2.0**	
Carbon Tetrachloride	5.7	45	**3.8**		1.3	U	1.3	U	**1.0**	
2,2,4-Trimethylpentane	NE	NE	1.3	U	0.93	U	0.93	U	1.3	U
Benzene	4.3	35	0.93	U	0.64	U	0.64	U	0.93	U
1,2-Dichloroethene (total)	NE	NE	**8.0**		0.79	U	0.79	U	**1.3**	
1,2-Dichloroethane	NE	NE	0.81	U	0.81	U	0.81	U	0.81	U
n-Heptane	NE	NE	**3.6**		0.82	U	0.82	U	**0.86**	
Trichloroethene	NE	NE	1.1	U	1.1	U	1.1	U	1.1	U
1,2-Dichloropropane	NE	NE	0.92	U	0.92	U	0.92	U	0.92	U
1,4-Dioxane	NE	NE	18	U	18	U	18	U	18	U
Bromodichloromethane	NE	NE	1.3	U	1.3	U	1.3	U	1.3	U
cis-1,3-Dichloropropene	NE	NE	0.91	U	0.91	U	0.91	U	0.91	U
Methyl Isobutyl Ketone	NE	NE	**2.5**		2.0	U	2.0	U	2.0	U
Toluene	NE	NE	**9.8**		**60**		0.75	U	**3.1**	
trans-1,3-Dichloropropene	NE	NE	0.91	U	0.91	U	0.91	U	0.91	U
1,1,2-Trichloroethane	NE	NE	1.1	U	1.1	U	1.1	U	1.1	U
Tetrachloroethene	21	170	1.4	U	1.4	U	1.4	U	1.4	U
Methyl Butyl Ketone	NE	NE	2.0	U	2.0	U	2.0	U	2.0	U
Dibromochloromethane	NE	NE	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane	NE	NE	1.5	U	1.5	U	1.5	U	1.5	U
Chlorobenzene	NE	NE	0.92	U	0.92	U	0.92	U	0.92	U
Ethylbenzene	13	110	**2.5**		**1.0**		0.87	U	0.87	U
Xylene (m,p)	NE	NE	**7.4**		**4.3**		2.2	U	1.7	U
Xylene (o)	NE	NE	**2.7**		**0.96**		0.87	U	0.87	U
Styrene	NE	NE	**10**		0.85	U	0.85	U	0.87	U
Bromoform	NE	NE	0.85	U	2.1	U	2.1	U	0.85	U
1,1,2,2-Tetrachloroethane	NE	NE	2.1	U	1.4	U	1.4	U	2.1	U
Xylene (total)	NE	NE	1.4	U	**5.2**		0.87	U	1.4	U
4-Ethyltoluene	NE	NE	**1.3**		0.98	U	0.98	U	0.98	U
1,3,5-Trimethylbenzene	2000	7000	**1.3**		0.98	U	0.98	U	0.98	U
2-Chlorotoluene	NE	NE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	2000	7000	**4.2**		**1.2**		0.98	U	0.98	U
1,3-Dichlorobenzene	NE	NE	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	NE	NE	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	NE	NE	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	NE	NE	3.7	U	3.7	U	3.7	U	3.7	U
Hexachlorobutadiene	NE	NE	2.1	U	2.1	U	2.1	U	2.1	U

Key:
VT SQG - Recommended Sediment Quality Guidelines for the Protection ofAquatic Biota in Freshwater Ecosystems
TEC - Threshold Effect Concentration
PEC - Probable Effects Concentration
mg/kg - milligrams per kilogram (parts per million)
RPD - relative percent difference
Bold results indicate detections of the analyte
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed

Table B-14
PAH Analytical Results – Groundwater Samples

SampleID		**VGES**	**AMR-GW-GW-3**		**AMR-GW-GW-5**		**AMR-GW-GW-5-FD**		**GW-GW-3**	
Sample Date	**CAS#**		**2/23/2010**		**2/23/2010**		**2/23/2010**		**8/10/2011**	**Q**
		(µg/L)								
2-Methylnaphthalene	91-57-6	NE	0.10	U	0.10	U	0.10	U	0.11	U
Acenaphthene	83-32-9	NE	0.10	U	0.10	U	0.10	U	0.11	U
Acenaphthylene	208-96-8	NE	0.10	U	0.10	U	0.10	U	0.11	U
Anthracene	120-12-7	343	**0.38**		0.10	U	0.10	U	**0.21**	
Benz(a)anthracene	56-55-3	NE	**0.69**		0.10	U	0.10	U	**0.54**	
Benzo(a)pyrene	50-32-8	0.2	**0.83**		0.10	U	0.10	U	**0.58**	
Benzo(b)fluoranthene	205-99-2	NE	**0.68**		0.10	U	0.10	U	**0.69**	
Benzo(g,h,i)perylene	191-24-2	NE	**0.95**		0.10	U	0.10	U	**0.66**	
Benzo(k)fluoranthene	207-08-9	NE	**0.55**		0.10	U	0.10	U	**0.26**	
Chrysene	218-01-9	NE	**0.71**		0.10	U	0.10	U	**0.48**	
Dibenz(a,h)anthracene	53-70-3	NE	0.10	U	0.10	U	0.10	U	**0.27**	
Fluoranthene	206-44-0	46	**1.6**		0.10	U	0.10	U	**1.1**	
Fluorene	86-73-7	46	0.10	U	0.10	U	0.10	U	0.11	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	**0.79**		0.10	U	0.10	U	**0.55**	
Naphthalene	91-20-3	0.5	0.10	U	0.10	U	0.10	U	0.11	U
Phenanthrene	85-01-8	NE	**1.2**		0.10	U	0.10	U	**0.72**	
Pyrene	129-00-0	NE	**1.1**		0.10	U	0.10	U	**1.1**	

SampleID		**VGES**	**GW-GW-5**		**GW-MW-11**		**GW-MW-12**		**GW-MW-13**	
Sample Date	**CAS#**		**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/10/2011**	**Q**	**8/11/2011**	**Q**
		(µg/L)								
2-Methylnaphthalene	91-57-6	NE	0.10	U	0.10	U	0.10	U	0.10	U
Acenaphthene	83-32-9	NE	0.10	U	0.10	U	0.10	U	0.10	U
Acenaphthylene	208-96-8	NE	0.10	U	0.10	U	0.10	U	0.10	U
Anthracene	120-12-7	343	0.10	U	0.10	U	0.10	U	0.10	U
Benz(a)anthracene	56-55-3	NE	0.10	U	0.10	U	0.10	U	0.10	U
Benzo(a)pyrene	50-32-8	0.2	0.10	U	0.10	U	0.10	U	0.10	U
Benzo(b)fluoranthene	205-99-2	NE	0.10	U	0.10	U	0.10	U	0.10	U
Benzo(g,h,i)perylene	191-24-2	NE	0.10	U	0.10	U	0.10	U	0.10	U
Benzo(k)fluoranthene	207-08-9	NE	0.10	U	0.10	U	0.10	U	0.10	U
Chrysene	218-01-9	NE	0.10	U	0.10	U	0.10	U	0.10	U
Dibenz(a,h)anthracene	53-70-3	NE	0.10	U	0.10	U	0.10	U	0.10	U
Fluoranthene	206-44-0	46	0.10	U	0.10	U	0.10	U	0.10	U
Fluorene	86-73-7	46	0.10	U	0.10	U	0.10	U	0.10	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	0.10	U	0.10	U	0.10	U	0.10	U
Naphthalene	91-20-3	0.5	0.10	U	**0.12**		0.10	U	0.10	U
Phenanthrene	85-01-8	NE	0.10	U	0.10	U	0.10	U	0.10	U
Pyrene	129-00-0	NE	0.10	U	0.10	U	0.10	U	0.10	U

Table B-14
PAH Analytical Results – Groundwater Samples

Sample ID		VGES	GW-MW-13-FD		GW-MW-14		GW-MW-15		SL-SB-0.0-EB	
Sample Date	**CAS#**		**8/11/2011**	**Q**	**8/11/2011**	**Q**	**8/10/2011**	**Q**	**8/4/2011**	**Q**
		(µg/L)								
2-Methylnaphthalene	91-57-6	NE	0.10	U	0.11	U	0.10	U	0.10	U
Acenaphthene	83-32-9	NE	0.10	U	0.11	U	0.10	U	0.10	U
Acenaphthylene	208-96-8	NE	0.10	U	0.11	U	0.10	U	0.10	U
Anthracene	120-12-7	343	0.10	U	0.11	U	0.10	U	0.10	U
Benz(a)anthracene	56-55-3	NE	0.10	U	0.11	U	0.10	U	0.10	U
Benzo(a)pyrene	50-32-8	0.2	0.10	U	0.11	U	0.10	U	0.10	U
Benzo(b)fluoranthene	205-99-2	NE	0.10	U	0.11	U	0.10	U	0.10	U
Benzo(g,h,i)perylene	191-24-2	NE	0.10	U	0.11	U	0.10	U	0.10	U
Benzo(k)fluoranthene	207-08-9	NE	0.10	U	0.11	U	0.10	U	0.10	U
Chrysene	218-01-9	NE	0.10	U	0.11	U	0.10	U	0.10	U
Dibenz(a,h)anthracene	53-70-3	NE	0.10	U	0.11	U	0.10	U	0.10	U
Fluoranthene	206-44-0	46	0.10	U	0.11	U	0.10	U	0.10	U
Fluorene	86-73-7	46	0.10	U	0.11	U	0.10	U	0.10	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	0.10	U	0.11	U	0.10	U	0.10	U
Naphthalene	91-20-3	0.5	0.10	U	0.11	U	0.10	U	0.10	U
Phenanthrene	85-01-8	NE	0.10	U	0.11	U	0.10	U	0.10	U
Pyrene	129-00-0	NE	0.10	U	0.11	U	0.10	U	0.10	U

Key:
VGES - Vermont Groundwater Enforcement Standard, July 2019
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed

Table B-15
PAH Analytical Results – Soil Samples

Sample ID		**VSS - Resident Soil**	**VSS - Non-resident Soil**	**Urban Background**	**AMR-SBD-GW1-C**		**AMR-SBD-SB10-2.1-C**		**AMR-SBD-SB17-C**		**AMR-SBD-SB17-C-FD**		**AMR-SBD-SB18-C**		**AMR-SBD-SB19-C**	
Sample Date					**12/15/2009**	**Q**	**12/17/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009 15:36**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**												
2-Methylnaphthalene	91-57-6	NE	NE	NE	**0.035**		**0.019**		0.011	U	**0.013**		0.011	U	**0.086**	
Acenaphthene	83-32-9	NE	NE	NE	**0.026**		**0.041**		0.011	U	**0.014**		0.011	U	**0.038**	
Acenaphthylene	208-96-8	NE	NE	NE	**0.021**		**0.027**		**0.012**		0.011	U	0.011	U	**0.018**	
Anthracene	120-12-7	NE	NE	NE	**0.058**		**0.088**		**0.032**		**0.044**		**0.024**		**0.091**	
B(a)P-TEQ	50-32-8	0.07	1.54	0.58	**0.609**		**0.451**		**0.228**		**0.34**		**0.107**		**0.403**	
Benz(a)anthracene	56-55-3	NE	NE	NE	**0.33**		**0.26**		**0.12**		**0.18**		**0.065**		**0.26**	
Benzo(a)pyrene	50-32-8	0.07	1.54	0.58	**0.39**		**0.32**		**0.16**		**0.24**		**0.072**		**0.26**	
Benzo(b)fluoranthene	205-99-2	NE	NE	NE	**0.5**		**0.27**		**0.16**		**0.23**		**0.074**		**0.32**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	NE	**0.33**		**0.21**		**0.028**		**0.17**		**0.061**		**0.26**	
Benzo(k)fluoranthene	207-08-9	NE	NE	NE	**0.4**		**0.27**		**0.12**		**0.17**		**0.055**		**0.21**	
Chrysene	218-01-9	NE	NE	NE	**0.41**		**0.27**		**0.14**		**0.2**		**0.069**		**0.29**	
Dibenz(a,h)anthracene	53-70-3	NE	NE	NE	**0.1**		**0.055**		**0.029**		**0.042**		**0.015**		**0.06**	
Fluoranthene	206-44-0	2301	26371	NE	**0.47**		**0.46**		**0.20**		**0.27**		**0.11**		**0.47**	
Fluorene	86-73-7	2301	26371	NE	**0.021**		**0.036**		0.011	U	0.011	U	0.011	U	**0.03**	
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	NE	**0.32**		**0.20**		**0.10**		**0.15**		**0.051**		**0.23**	
Naphthalene	91-20-3	2.7	16	NE	**0.04**		**0.028**		**0.011**		**0.016**		0.011	U	**0.037**	
Phenanthrene	85-01-8	NE	NE	NE	**0.28**		**0.31**		**0.13**		**0.18**		**0.092**		**0.33**	
Pyrene	129-00-0	NE	NE	NE	**0.41**		**0.38**		**0.18**		**0.25**		**0.10**		**0.40**	

Sample ID		**VSS - Resident Soil**	**VSS - Non-resident Soil**	**Urban Background**	**AMR-SBD-SB1-C**		**AMR-SBD-SB20-C**		**AMR-SBD-SB2-1.4**		**AMR-SBD-SB3-C**		**AMR-SBD-SB4-C**		**AMR-SBD-SB5-C**	
Sample Date	**CAS#**				**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**												
2-Methylnaphthalene	91-57-6	NE	NE	NE	**0.13**		**0.021**		**0.04**		**0.27**		0.011	U	0.11	U
Acenaphthene	83-32-9	NE	NE	NE	**0.42**		**0.016**		**0.048**		**0.85**		0.011	U	0.11	U
Acenaphthylene	208-96-8	NE	NE	NE	**0.21**		**0.053**		**0.097**		**0.18**		0.011	U	0.11	U
Anthracene	120-12-7	NE	NE	NE	**0.73**		**0.067**		**0.17**		**1.6**		0.011	U	0.11	U
B(a)P-TEQ	50-32-8	0.07	1.54	0.58	***3.060***		**0.34**		**1.420**		***5.520***		0.0127	U	0.127	U
Benz(a)anthracene	56-55-3	NE	NE	NE	**1.9**		**0.22**		**0.82**		**3.8**		0.011	U	0.11	U
Benzo(a)pyrene	50-32-8	0.07	1.54	0.58	***2.1***		**0.23**		**0.97**		***3.8***		0.011	U	0.11	U
Benzo(b)fluoranthene	205-99-2	NE	NE	NE	**2.1**		**0.26**		**0.99**		**3.5**		0.011	U	0.11	U
Benzo(g,h,i)perylene	191-24-2	NE	NE	NE	**1.5**		**0.17**		**0.73**		**2.3**		0.011	U	0.11	U
Benzo(k)fluoranthene	207-08-9	NE	NE	NE	**1.5**		**0.18**		**0.76**		**3.3**		0.011	U	0.11	U
Chrysene	218-01-9	NE	NE	NE	**2.0**		**0.26**		**0.90**		**4.0**		0.011	U	0.11	U
Dibenz(a,h)anthracene	53-70-3	NE	NE	NE	**0.40**		**0.044**		**0.19**		**0.72**		0.011	U	0.11	U
Fluoranthene	206-44-0	2301	26371	NE	**4.2**		**0.42**		**1.4**		**6.9**		0.011	U	0.11	U
Fluorene	86-73-7	2301	26371	NE	**0.35**		**0.02**		**0.051**		**0.74**		0.011	U	0.11	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	NE	**1.4**		**0.16**		**0.71**		**2.3**		0.011	U	0.11	U
Naphthalene	91-20-3	2.7	16	NE	**0.23**		**0.025**		**0.052**		**0.37**		0.011	U	0.11	U
Phenanthrene	85-01-8	NE	NE	NE	**3.2**		**0.27**		**0.73**		**5.8**		0.011	U	0.11	U
Pyrene	129-00-0	NE	NE	NE	**3.6**		**0.39**		**1.3**		**6.0**		0.011	U	**0.12**	

Sample ID		**VSS - Resident Soil**	**VSS - Non-resident Soil**	**Urban Background**	**AMR-SBD-SB6-C**		**AMR-SBD-SB6-C-FD**		**AMR-SBD-SB7-C**		**AMR-SBD-SB8-2.2**		**AMR-SBD-SB9-C**		**AMR-SBS-SB14-SB15-SB16-C**	
Sample Date	**CAS#**				**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/17/2009**	**Q**	**12/17/2009**	**Q**	**12/17/2009**	**Q**	**12/11/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**												
2-Methylnaphthalene	91-57-6	NE	NE	NE	0.012	U	**0.020**		0.010	U	0.011	U	**0.017**		0.012	U
Acenaphthene	83-32-9	NE	NE	NE	0.012	U	**0.015**		0.010	U	0.011	U	**0.038**		0.012	U
Acenaphthylene	208-96-8	NE	NE	NE	**0.014**		**0.023**		0.010	U	0.011	U	**0.027**		0.012	U
Anthracene	120-12-7	NE	NE	NE	**0.022**		**0.054**		0.010	U	0.011	U	**0.060**		**0.037**	
B(a)P-TEQ	50-32-8	0.07	1.54	0.58	**0.128**		**0.372**		**0.025**		**0.0218**		**0.482**		**0.148**	
Benz(a)anthracene	56-55-3	NE	NE	NE	**0.083**		**0.28**		**0.013**		**0.013**		**0.31**		**0.11**	
Benzo(a)pyrene	50-32-8	0.07	1.54	0.58	**0.09**		**0.26**		**0.016**		**0.013**		**0.34**		**0.10**	
Benzo(b)fluoranthene	205-99-2	NE	NE	NE	**0.085**		**0.25**		**0.016**		**0.014**		**0.34**		**0.098**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	NE	**0.061**		**0.15**		**0.012**		0.011	U	**0.22**		**0.071**	
Benzo(k)fluoranthene	207-08-9	NE	NE	NE	**0.076**		**0.20**		**0.013**		0.011	U	**0.27**		**0.085**	
Chrysene	218-01-9	NE	NE	NE	**0.098**		**0.28**		**0.017**		**0.014**		**0.36**		**0.11**	
Dibenz(a,h)anthracene	53-70-3	NE	NE	NE	**0.015**		**0.042**		0.010	U	0.011	U	**0.053**		**0.019**	
Fluoranthene	206-44-0	2301	26371	NE	**0.17**		**0.49**		**0.020**		**0.023**		**0.88**		**0.18**	
Fluorene	86-73-7	2301	26371	NE	0.012	U	**0.014**		0.010	U	0.011	U	**0.028**		0.012	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	NE	**0.058**		**0.15**		**0.010**		0.011	U	**0.21**		**0.068**	
Naphthalene	91-20-3	2.7	16	NE	0.012	U	**0.031**		0.010	U	0.011	U	**0.02**		0.012	U
Phenanthrene	85-01-8	NE	NE	NE	**0.11**		**0.21**		0.010	U	0.011	U	**0.49**		**0.14**	
Pyrene	129-00-0	NE	NE	NE	**0.16**		**0.44**		**0.022**		**0.021**		**0.75**		**0.20**	

Sample ID		**VSS - Resident Soil**	**VSS - Non-resident Soil**	**Urban Background**	**AMR-SBS-SB13-0.5**		**AMR-SBS-SB17-SB18-SB19-SB-20-C**		**AMR-SBS-SB21-SB22-SB23-C (Comp 7)**	
Sample Date	**CAS#**				**12/16/2009**	**Q**	**12/16/2009**	**Q**	**12/16/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**						
2-Methylnaphthalene	91-57-6	NE	NE	NE	0.011	U	0.011	U	0.012	U
Acenaphthene	83-32-9	NE	NE	NE	0.011	U	0.011	U	0.012	U
Acenaphthylene	208-96-8	NE	NE	NE	0.011	U	0.011	U	0.012	U
Anthracene	120-12-7	NE	NE	NE	0.011	U	0.011	U	0.012	U
B(a)P-TEQ	50-32-8	0.07	1.54	0.58	**0.023**		0.013	U	**0.048**	
Benz(a)anthracene	56-55-3	NE	NE	NE	**0.013**		0.011	U	**0.029**	
Benzo(a)pyrene	50-32-8	0.07	1.54	0.58	**0.014**		0.011	U	**0.033**	
Benzo(b)fluoranthene	205-99-2	NE	NE	NE	**0.015**		0.011	U	**0.035**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	NE	0.011	U	0.011	U	**0.026**	
Benzo(k)fluoranthene	207-08-9	NE	NE	NE	**0.011**		0.011	U	**0.029**	
Chrysene	218-01-9	NE	NE	NE	**0.013**		0.011	U	**0.037**	
Dibenz(a,h)anthracene	53-70-3	NE	NE	NE	0.011	U	0.011	U	0.012	U
Fluoranthene	206-44-0	2301	26371	NE	**0.023**		0.011	U	**0.056**	
Fluorene	86-73-7	2301	26371	NE	0.011	U	0.011	U	0.012	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	NE	0.011	U	0.011	U	**0.022**	
Naphthalene	91-20-3	2.7	16	NE	0.011	U	0.011	U	0.012	U
Phenanthrene	85-01-8	NE	NE	NE	0.011	U	0.011	U	**0.031**	
Pyrene	129-00-0	NE	NE	NE	**0.021**		**0.012**		**0.066**	

Table B-15
PAH Analytical Results – Soil Samples

Sample ID		**VSS - Resident Soil**	**VSS - Non-resident Soil**	**Urban Background**	**AMR-SBS-SB17-SB18-SB19-SB-20-C**		**AMR-SBS-SB18-0.5**		**AMR-SBS-SB1-SB2-SB3-C**		**AMR-SBS-SB4-SB5-SB6-C**		**AMR-SBS-SB7-SB8-SB9-SB10-C**		**AMR-SBS-SB7-SB8-SB9-SB-10-C-FD**	
Sample Date	**CAS#**				**12/11/2009**	**Q**	**12/11/2009**	**Q**	**12/11/2009**	**Q**	**12/11/2009**	**Q**	**12/11/2009**	**Q**	**12/11/2009**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**												
2-Methylnaphthalene	91-57-6	NE	NE	NE	0.011	U	0.011	U	0.11	U	0.011	U	0.012	U	0.012	U
Acenaphthene	83-32-9	NE	NE	NE	0.011	U	0.011	U	0.11	U	0.011	U	0.012	U	0.012	U
Acenaphthylene	208-96-8	NE	NE	NE	0.011	U	0.011	U	0.11	U	**0.027**		**0.017**		0.012	U
Anthracene	120-12-7	NE	NE	NE	0.011	U	0.011	U	0.11	U	**0.018**		**0.016**		0.012	U
B(a)P-TEQ	50-32-8	0.07	1.54	0.58	0.0127	U	**0.023**		**0.607**		**0.158**		**0.116**		**0.0535**	
Benz(a)anthracene	56-55-3	NE	NE	NE	0.011	U	**0.013**		**0.33**		**0.085**		**0.079**		**0.034**	
Benzo(a)pyrene	50-32-8	0.07	1.54	0.58	0.011	U	**0.014**		**0.43**		**0.11**		**0.078**		**0.037**	
Benzo(b)fluoranthene	205-99-2	NE	NE	NE	0.011	U	**0.015**		**0.51**		**0.11**		**0.095**		**0.042**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	NE	0.011	U	0.011	U	**0.35**		**0.081**		**0.046**		**0.024**	
Benzo(k)fluoranthene	207-08-9	NE	NE	NE	0.011	U	**0.011**		**0.40**		**0.10**		**0.085**		**0.037**	
Chrysene	218-01-9	NE	NE	NE	0.011	U	**0.013**		**0.41**		**0.11**		**0.089**		**0.040**	
Dibenz(a,h)anthracene	53-70-3	NE	NE	NE	0.011	U	0.011	U	0.11	U	**0.02**		**0.015**		0.012	U
Fluoranthene	206-44-0	2301	26371	NE	0.011	U	**0.023**		**0.48**		**0.15**		**0.10**		**0.060**	
Fluorene	86-73-7	2301	26371	NE	0.011	U	0.011	U	0.11	U	0.011	U	0.012	U	0.012	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	NE	0.011	U	0.011	U	**0.34**		**0.075**		**0.049**		**0.025**	
Naphthalene	91-20-3	2.7	16	NE	0.011	U	0.011	U	0.11	U	0.011	U	0.012	U	0.012	U
Phenanthrene	85-01-8	NE	NE	NE	0.011	U	0.011	U	**0.25**		**0.066**		**0.024**		**0.023**	
Pyrene	129-00-0	NE	NE	NE	**0.012**		**0.021**		**0.53**		**0.18**		**0.13**		**0.068**	

Sample ID		**VSS - Resident Soil**	**VSS - Non-resident Soil**	**Urban Background**	**AMR-SSL-Comp 7**		**AMR-SSL-SB21**		**AMR-SSL-SB22**		**AMR-SSL-SB23-0.5**		**SL-SB-111-2.0'**		**SL-SB-111-4.0'**	
Sample Date	**CAS#**				**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/10/2009**	**Q**	**12/10/2009**	**Q**	**8/4/2011**	**Q**	**8/4/2011**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**												
2-Methylnaphthalene	91-57-6	NE	NE	NE	0.012	U	0.012	U	0.013	U	0.012	U	**0.022**		**0.170**	
Acenaphthene	83-32-9	NE	NE	NE	0.012	U	0.012	U	0.013	U	0.012	U	**0.061**		**0.047**	
Acenaphthylene	208-96-8	NE	NE	NE	0.012	U	**0.016**		0.013	U	0.012	U	**0.120**		**0.045**	
Anthracene	120-12-7	NE	NE	NE	0.012	U	**0.018**		0.013	U	0.012	U	**0.210**		**0.130**	
B(a)P-TEQ	50-32-8	0.07	1.54	0.58	**0.0479**		**0.114**		**0.052**		**0.0414**		**1.100**		***1.750***	
Benz(a)anthracene	56-55-3	NE	NE	NE	**0.029**		**0.049**		**0.031**		**0.022**		**0.790**		**0.930**	
Benzo(a)pyrene	50-32-8	0.07	1.54	0.58	**0.033**		**0.078**		**0.036**		**0.028**		**0.720**		***1.100***	
Benzo(b)fluoranthene	205-99-2	NE	NE	NE	**0.035**		**0.075**		**0.038**		**0.029**		**1.00**		**1.50**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	NE	**0.026**		**0.075**		**0.027**		**0.024**		**0.370**		**0.580**	
Benzo(k)fluoranthene	207-08-9	NE	NE	NE	**0.029**		**0.046**		**0.029**		**0.023**		**0.360**		**0.430**	
Chrysene	218-01-9	NE	NE	NE	**0.037**		**0.089**		**0.035**		**0.028**		**0.730**		**0.840**	
Dibenz(a,h)anthracene	53-70-3	NE	NE	NE	0.012	U	**0.018**		0.013	U	0.012	U	**0.160**		**0.340**	
Fluoranthene	206-44-0	2301	26371	NE	**0.056**		**0.079**		**0.058**		**0.037**		**1.40**		**1.10**	
Fluorene	86-73-7	2301	26371	NE	0.012	U	0.012	U	0.013	U	0.012	U	**0.070**		**0.046**	
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	NE	**0.022**		**0.053**		**0.023**		**0.020**		**0.34**		**0.64**	
Naphthalene	91-20-3	2.7	16	NE	0.012	U	0.012	U	0.013	U	0.012	U	**0.058**		**0.13**	
Phenanthrene	85-01-8	NE	NE	NE	**0.031**		**0.027**		**0.024**		**0.017**		**0.670**		**0.46**	
Pyrene	129-00-0	NE	NE	NE	**0.066**		**0.081**		**0.067**		**0.047**		**1.30**		**1.10**	

Sample ID		**VSS - Resident Soil**	**VSS - Non-resident Soil**	**Urban Background**	**SL-SB-111-4.0' FD**		**SL-SB-111-8.0'**		**SL-SB-112-2.0'**		**SL-SB-112-4.0'**		**SL-SB-112-8.0'**	
Sample Date	**CAS#**				**8/4/2011**	**Q**	**8/4/2011**	**Q**	**8/4/2011**	**Q**	**8/4/2011 12:52**	**Q**	**8/4/2011 13:00**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**										
2-Methylnaphthalene	91-57-6	NE	NE	NE	**0.160**		**0.026**		**0.013**		**0.150**		0.010	U
Acenaphthene	83-32-9	NE	NE	NE	**0.045**		0.010	U	**0.016**		**0.072**		0.010	U
Acenaphthylene	208-96-8	NE	NE	NE	**0.055**		0.010	U	**0.014**		0.010	U	0.010	U
Anthracene	120-12-7	NE	NE	NE	**0.150**		**0.044**		**0.095**		**0.110**		0.010	U
B(a)P-TEQ	50-32-8	0.07	1.54	0.58	***1.570***		**0.271**		**0.449**		***1.870***		**0.072**	
Benz(a)anthracene	56-55-3	NE	NE	NE	**0.890**		**0.180**		**0.330**		**0.970**		**0.034**	
Benzo(a)pyrene	50-32-8	0.07	1.54	0.58	**1.00**		**0.160**		**0.270**		**1.20**		**0.040**	
Benzo(b)fluoranthene	205-99-2	NE	NE	NE	**1.40**		**0.220**		**0.380**		**1.50**		**0.059**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	NE	**0.470**		**0.150**		**0.160**		**0.620**		**0.032**	
Benzo(k)fluoranthene	207-08-9	NE	NE	NE	**0.320**		**0.082**		**0.110**		**0.360**		**0.019**	
Chrysene	218-01-9	NE	NE	NE	**0.840**		**0.150**		**0.290**		**0.920**		**0.041**	
Dibenz(a,h)anthracene	53-70-3	NE	NE	NE	**0.280**		**0.057**		**0.090**		**0.350**		**0.019**	
Fluoranthene	206-44-0	2301	26371	NE	**1.20**		**0.250**		**0.630**		**1.20**		**0.036**	
Fluorene	86-73-7	2301	26371	NE	**0.051**		**0.013**		**0.014**		0.010	U	0.010	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	NE	**0.520**		**0.130**		**0.170**		**0.680**		**0.031**	
Naphthalene	91-20-3	2.7	16	NE	**0.110**		**0.037**		**0.015**		**0.074**		**0.012**	
Phenanthrene	85-01-8	NE	NE	NE	**0.480**		**0.190**		**0.370**		**0.780**		**0.028**	
Pyrene	129-00-0	NE	NE	NE	**1.20**		**0.230**		**0.600**		**1.20**		**0.037**	

Key:
Vermont Soil Standards from Investigation and Remediation of Contaminated Properties Rule, July 2019
mg/kg - milligrams per kilogram (parts per million)
RPD - relative percent difference
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the VSS-Resident enforcement standard
Italic results indicate an exceedance of the VSS - Non-Resident enforcement standard
Benzo(a)pyrene Toxicity Equivalency Quotient [B(a)P-TEQ] values with an orange border exceed the Vermont Urban Background value
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed

Table B-16
PAH Analytical Results – Sediment Samples

Sample ID		VT SQG TEC	VT SQG PEC	AMR-SED-BR 01		AMR-SED-BR 01-FD		AMR-SED-BR 02		AMR-SED-BR 06		AMR-SED-BR 07	
Sample Date				**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**
		(mg/Kg)	**(mg/Kg)**										
2-Methylnaphthalene	91-57-6	NE	NE	0.014	U	0.014	U	0.014	U	**0.36**		0.017	U
Acenaphthene	83-32-9	NE	NE	0.014	U	0.014	U	0.014	U	**2.0**		0.017	U
Acenaphthylene	208-96-8	NE	NE	**0.037**		**0.081**		**0.032**		**0.12**		**0.039**	
Anthracene	120-12-7	0.0572	0.845	**0.029**		**0.060**		**0.032**		***2.5***		**0.048**	
Benz(a)anthracene	56-55-3	0.108	1.05	**0.087**		**0.17**		**0.10**		***7.3***		**0.14**	
Benzo(a)pyrene	50-32-8	0.15	1.45	**0.098**		**0.19**		**0.10**		***6.3***		**0.16**	
Benzo(b)fluoranthene	205-99-2	NE	NE	**0.091**		**0.17**		**0.094**		**6.6**		**0.15**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	**0.078**		**0.15**		**0.067**		**3.6**		**0.11**	
Benzo(k)fluoranthene	207-08-9	NE	NE	**0.066**		**0.15**		**0.077**		**5.9**		**0.12**	
Chrysene	218-01-9	0.166	1.29	**0.095**		**0.19**		**0.11**		***7.5***		**0.16**	
Dibenz(a,h)anthracene	53-70-3	0.033	NE	**0.018**		**0.036**		**0.017**		***1.1***		**0.027**	
Fluoranthene	206-44-0	0.423	2.23	**0.16**		**0.30**		**0.18**		***15***		**0.28**	
Fluorene	86-73-7	0.0774	0.536	0.014	U	0.014	U	0.014	U	**1.6**		0.017	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	**0.064**		**0.12**		**0.063**		**3.6**		**0.10**	
Naphthalene	91-20-3	0.176	0.561	0.014	U	0.014	U	0.014	U	***0.59***		0.017	U
Phenanthrene	85-01-8	0.204	1.17	**0.068**		**0.14**		**0.085**		***11***		**0.13**	
Pyrene	129-00-0	0.195	1.52	**0.16**		**0.30**		**0.18**		***9.8***		***0.25***	

Sample ID		VT SQG TEC	VT SQG PEC	AMR-SED-BR 11		AMR-SED-BR 11-FD		AMR-SED-101		AMR-SED-102	
Sample Date				**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**	**4/21/2010**	**Q**
		(mg/Kg)	**(mg/Kg)**								
2-Methylnaphthalene	91-57-6	NE	NE	0.011	U	0.011	U	0.013	U	0.013	U
Acenaphthene	83-32-9	NE	NE	0.011	U	0.011	U	0.013	U	0.013	U
Acenaphthylene	208-96-8	NE	NE	**0.019**		**0.016**		**0.015**		0.013	U
Anthracene	120-12-7	0.0572	0.845	**0.018**		**0.027**		**0.015**		0.013	U
Benz(a)anthracene	56-55-3	0.108	1.05	**0.062**		**0.075**		**0.049**		**0.046**	
Benzo(a)pyrene	50-32-8	0.15	1.45	**0.068**		**0.064**		**0.058**		**0.021**	
Benzo(b)fluoranthene	205-99-2	NE	NE	**0.058**		**0.054**		**0.055**		**0.081**	
Benzo(g,h,i)perylene	191-24-2	NE	NE	**0.047**		**0.038**		**0.041**		**0.021**	
Benzo(k)fluoranthene	207-08-9	NE	NE	**0.052**		**0.061**		**0.044**		**0.03**	
Chrysene	218-01-9	0.166	1.29	**0.078**		**0.094**		**0.057**		**0.23**	
Dibenz(a,h)anthracene	53-70-3	0.033	NE	**0.015**		**0.011**		0.013	U	0.013	U
Fluoranthene	206-44-0	0.423	2.23	**0.075**		**0.16**		**0.093**		**0.11**	
Fluorene	86-73-7	0.0774	0.536	0.011	U	0.011	U	0.013	U	0.013	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	**0.043**		**0.038**		**0.038**		**0.018**	
Naphthalene	91-20-3	0.176	0.561	0.011	U	0.011	U	0.013	U	0.013	U
Phenanthrene	85-01-8	0.204	1.17	**0.026**		**0.14**		**0.043**		**0.18**	
Pyrene	129-00-0	0.195	1.52	**0.083**		**0.16**		**0.083**		**0.082**	

Key:
VT SQG - Recommended Sediment Quality Guidelines for the Protection ofAquatic Biota in Freshwater Ecosystems
TEC - Threshold Effect Concentration
PEC - Probable Effects Concentration
mg/kg - milligrams per kilogram (parts per million)
RPD - relative percent difference
Bold results indicate detections of the analyte
NE - screening level not established
Q - laboratory result qualifier
U - Analyte not detected; limit of quantitation listed

Appendix C: Standard Operating Procedures

STANDARD OPERATING PROCEDURE

SEI-5.58.2

Collection, Handling, and Preservation of Discrete Soil Samples

SOP Number: SEI-5.58.2	Date Issued: 10/15/2012
Revision Number: 2	Date of Revision: 11/6/2020

1.0 OBJECTIVE

The purpose of this procedure is to provide instruction for the collection, handling, and preservation of discrete soils for various analyses including, but not limited to: volatile organic compounds (VOCs); physical property analyses including porosity, bulk density, and fraction of organic carbon content (*foc*); semi-volatile organic compounds (SVOCs); total petroleum hydrocarbon (TPH), Massachusetts Department of Environmental Protection (MA DEP) extractable petroleum hydrocarbons (EPH), metals; per- and polyfluoroalkyl substances (PFAS); or polychlorinated biphenyls (PCBs).

Solid samples collected for analysis of VOCs must be obtained, logged, field-extracted or preserved with a minimal loss of volatile analytes. To this end, this SOP combines industry best-practices, related State-level guidance, and EPA Method 5035A: *Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples.*

The VOC sampling procedures in this SOP were developed in general conformance with EPA Method 5035. Following the procedures in this SOP may be sufficient to comply with EPA Method 5035 for the handling and preservation of soil samples for analysis of VOCs; however site-specific procedures may vary based on the State-level guidance or site-specific factors.

2.0 POLICIES

1. According to 40 CFR Part 160, Subpart E, Section 160.81, a testing facility shall have standard operating procedures in writing setting forth study methods that management is satisfied are adequate to ensure the quality and integrity of the data generated in the course of a study.
2. Personnel will legibly record data and observations in the field to enable others to reconstruct project events and provide sufficient evidence of activities conducted.

3.0 SAFETY ISSUES

1. Prior to performing any excavation or drilling activities, the Project Manager will obtain a Dig Safe ticket (Call 1-888-DIG-SAFE in New England).

2. If necessary and appropriate, a site-specific health and safety plan (HASP) shall be created for each study site. A template for creating a proper health and safety plan is provided on the Stone network.
3. Care must always be taken when approaching a sampling location. Do not, under any circumstances, place yourself in danger to collect a sample.
4. If necessary and appropriate, all chemicals are required to be received with Safety Data Sheets (SDS) or appropriate application labels. These labels or SDS shall be made available to all personnel involved in the sampling and testing.

4.0 PROCEDURES

4.1 Collecting Discrete Soil Samples for Per- and Polyfluoroalkyl Substances (PFAS)

The United States Environmental Protection Agencies (EPAs) health advisory level for PFAS in drinking water is currently set at 70 parts per trillion (ppt) and the Vermont Maximum Contaminant Level and Vermont Groundwater Enforcement Standard for PFAS is 20 ppt. Due to these low regulatory levels, it is important for the proper equipment and clothing to be used and worn while collecting surface water samples to be analyzed for PFAS because PFAS can be present in sampling equipment and bottleware as well as clothing and personal care products that are typically used and/or worn while collecting groundwater samples. These items can include but are not limited to the following: Teflon lined tubing, low density polyethylene (LDPE) or glass bottles, waterproof field books, sharpies, synthetic or waterproof clothing including Gore-Tex and coated nylons, cosmetics, and pre-packaged foods. Detection of PFAS at low levels can be affected by the presence of the aforementioned materials being present on-site while sampling.

4.1.1 Personal Equipment

The following requirements must be met prior to arriving on-site to prevent potential cross contamination while sampling for PFAS.

- Personal hygiene products (e.g., cosmetics, lotions, and moisturizes) must not be worn.
- Clothing must be well washed (brand new clothing shall not be worn during sampling) and made of synthetic or natural fibers. **Waterproof, water resistant, stain resistant, and clothing washed in fabric softeners must not be worn during sampling.**
- Boots must be made with polyurethane or PVC. **Waterproof, water resistant, and stain resistant boots must not be worn during sampling.**
- Sunscreen and insect repellants must not be used unless they are on the approved list:
    - Sunscreen: Alba Organics Natural, Yes to Cucumbers, Aubrey Organics, Jason Natural Sun Block, Kiss my Face, Baby-safe sunscreens (free or natural)
    - Insect Repellents: Jason Natural Quit Bugging Me, Repel Lemon Eucalyptus, Herbal Armor, California Baby Natural Bug Spray, BabyGanics

- **Prepackaged food, Tupperware containers, and fast food wrappers must not be brought close to the sampling location**.

4.2 Equipment and Materials

1. For VOCs: Pre-weighed VOA vials with screw cap and silicone septum containing 10 ml of purge-and-trap grade methanol. A pre-determined appropriate number of sample containers as needed for parameters of interest.
2. For PFAS: Contract laboratory supplied bottles specifically for PFAS sampling: High-density polyethylene (HDPE) or polypropylene bottles with an unlined (**no Teflon or fluoropolymer lined caps**), polypropylene, or HDPE screw cap. **Glass and LDPE containers shall not be used. Laboratory provided labels that have been tested to confirm they are "PFAS-Free" may be used, all other non-tested samples labels shall not be used.**
3. For VOCs: Sample collection device for minimally disturbed delivery of sample such as:
   a. Disposable plastic syringe with tip removed, or
   b. Encore piston sampler.
   c. Stainless steel spoons and bowls
   d. Hand auger or other manual soil sampling tool.
4. Portable balance, accurate to 0.01 grams, and calibration weights for vial preparation.
5. Decontamination supplies if reusing stainless steel sampling tools: distilled water, alconox, scrub brushes, buckets, methanol if specified in project work plan. Alconox or Liquinox are the only two soaps that shall be used to decontaminate non-dedicated PFAS sampling equipment and water used for decontamination shall be laboratory certified as "PFAS-free".
6. Field notebook, sample collection form, soil coring logs, observation and remark form, or other acceptable medium for recording field notes. Ballpoint, indelible pens. For PFAS sampling, **Non-Sharpie markers, waterproof paper or field books, plastic clipboards, and adhesive paper products must not be used. Laboratory supplied sample labels that have been tested and confirmed to not contain PFAS may be used, all other non-tested samples labels shall not be used.**
7. Portable photoionization detector (PID) with calibration gas or other field-portable instrument according to the study objectives.
8. Appropriate containers for soil cores.
9. Appropriate containers for investigation derived waste.
10. Plastic wrap and zip top bags.
11. Shipping materials: coolers with ice, bubble wrap or other packaging materials, packing tape, and shipping labels.
12. Hacksaw (for collecting samples for physical properties analyses).
13. Measuring tape.
14. As necessary or as described in the Site HASP appropriate personnel protection equipment (PPE) such as gloves, hardhat, hearing protection and safety glasses (minimal).
15. Chain of custody records and custody seals.

16. One-inch diameter wood hole saw and cordless electric drill (for non-biased sampling method, see Section 4.3.2).

4.3 Soil Core Retrieval and Handling

Soil cores may be retrieved by several different methods, it is important to select a method that recovers soil cores representative of in-situ conditions and minimizes losses of VOCs. Examples of soil coring methods include, but are not limited to Geoprobe® Systems MC5, DT45, DT325/35, or DT22 coring tools, split spoon samplers, and AMS multi-stage soil core samplers. Refer to project specific protocols and to SEI-5.34.n Installation, Development and Decommissioning of Monitoring Wells and Observation Wells for guidance on selection of a soil coring method.

At no time prior to logging and sample collection should soil cores be allowed to sit in open sunlight.

4.4 Sample Collection for VOC Analyses

Volatile Organic Analyses (VOA) vials for VOC sample collection should be provided by the contract laboratory and made to contain field preservation liquid (typically 10 milliliters (mL) of deionized water or methanol). The field preservation liquid shall be selected based on the data quality objectives for the study and be made in concert with the contract laboratory.

Upon retrieval of soil cores, discrete samples for VOC analysis can be collected in two ways: 1) based on field screening of VOCs by a handheld instrument (e.g., PID) or other visual indicators, or 2) depth based.

4.4.1 Sample Collection Based on PID or Visual Inspection (Biased Sampling)

For VOC sample collection based on field screening the following steps shall be followed. Care should be taken to work quickly and efficiently to minimize the loss of VOCs:

1. Cores will be placed on a clean sampling surface; liners shall be opened to reveal the core. The core can then be logged in accordance with study objectives and photographed with labels indicating the site ID, borehole ID, depth interval, and recovery.
2. A portable PID will be utilized to screen the soil cores every 1-foot or at a change of lithology for the possible presence of VOCs. PIDs shall be calibrated daily prior to measurements according to manufacturer instructions (SEI-5.63.*n*). Soil screening is to be performed by the headspace method, as specified in Section 4.5 in SEI-5.63.*n*.
3. VOC sample frequency will follow site specific protocols. Typically, VOC samples will be collected from strata exhibiting the highest PID responses, at the transition to water saturated soils (i.e., static water table), or contacts between stratigraphic units. Specific

sample frequencies will be developed within the project-specific work plan or Site Specific Quality Assurance Project Plan.

4. Using an appropriate sample device (see section 4.1 of this SOP), collect approximately 10-12 grams (g) of sample as soon as possible after the surface of the soil has been exposed to the atmosphere, generally within a few minutes at most. To the extent practical, samples should be obtained from undisturbed portions of the soil core.
5. Using the sample collection device, add the approximately 10-12g of sample to a pre-prepared sample vial containing purge-and-trap grade methanol or deionized water.
6. Wipe any soil off the vial threads and immediately seal the vial with the septum and screw cap.
7. If project-specific work plan(s) specify, use a portable balance to weigh the sealed vial containing the sample (after either noting the laboratory-indicated weight or determining the tare weight of the vial in the field) to ensure 10-12g of sample was added. Samples will also be weighed upon receipt at the laboratory to determine sample mass.
8. Using the laboratory supplied label already fixed to the vials, label sample. Do not affix additional labels or custody seals to vials, as this will alter the tare weight.
9. Sample time, date, and depth is recorded on field forms.
10. Store samples on ice at 4°C until delivered to the analytical laboratory.
11. A trip blank comprised of a blank methanol vial should be supplied by the laboratory, and shall be submitted back to the laboratory with each sample delivery group
12. A separate 10-12g aliquot of soil should be collected for moisture content determination using the same sampling device and methods described above, and placed in an un-preserved container. Label the moisture content sample appropriately.
13. Upon completion of VOC sample collection soil cores shall be described for color, texture, consistence, structure, and moisture, and other parameters as called for in site specific protocols following SEI-5.56.*n Geologic Description of Unconsolidated Deposits using the Wentworth Grain Scale.* Collect discrete soil samples for other analytical parameters
14. Decontaminate reusable sampling equipment prior to reuse according to site specific procedures and/or SEI-5.1.*n Maintenance and Decontamination of Field Equipment.*

4.4.2 Discrete VOC Sample Collection Based on Depth (Non-Biased)

Non-biased sampling can be performed of soil cores prior to opening the disposable acetate sleeve by using a wood hole saw to create a sample port through the disposable sleeve. This method, while not relying on visual or field screening measurements to select a sample interval, minimizes potential loss of VOC mass to volatization and is typically used for high resolution strategies. For non-biased sampling, follow these steps:

1. Place cores on a clean sampling surface without cutting the acetate sleeve. Recovery is noted and sample depths are selected. In most cases, when the length of recovered core is less than the drive interval, the sample spacing will need to be adjusted in the following ratio:

   $$\begin{aligned} &\mathit{Actual\ Sample\ Interval} \div \mathit{Designed\ Sample\ Interval} \\ &\qquad = \mathit{Length\ of\ Recovered\ Core}\ \div \mathit{Length\ of\ Sample\ Interval} \end{aligned}$$

2. Using a decontaminated hole saw, drill a 1-inch diameter hole through the acetate sleeve.
3. Follow steps 4 through 12, above. Repeat for each sample interval. It is often helpful to have multiple hole saw drill bits to facilitate collecting multiple samples before needing to decontaminate sampling equipment.
4. Upon completing sample collection, the acetate may be opened to allow for logging of the core.
5. Decontaminate reusable sampling equipment prior to reuse according to site specific procedures and/or SEI-5.1.*n Maintenance and Decontamination of Field Equipment.*

4.5 Discrete Soil Sample Collection for non-VOC Chemical Analyses

Discrete soil samples may be collected for other analytical parameters including, but not limited to, SVOCs, PAHs, Metals, PCBs, and PFAS. Samples for non-VOC analyses should be collected after collecting VOC samples, as appropriate for the objectives of the study, except for PFAS. If PFAS samples are going to be collected, refer to the data quality objectives in the work plan or Site-Specific Quality Assurance Project Plan for sample order. PFAS samples should be obtained from undisturbed portions of the soil core. PFAS samples should be placed in an individually sealed plastic bag separate from all other sample parameter bottles (non-PFAS bottles) in a cooler filled with ice. These samples may be collected from soil cores retrieved from the subsurface using drilling techniques discussed in section 4.2 of this SOP or from surface or shallow soils collected using hand tools, such as a hand auger or AMS multi-stage soil core sampler. These discrete soil samples shall be collected following these steps:

1. Prior to fieldwork contact the laboratory conducting sample analysis and procure appropriate containers for the specific study. Container volume and amount of soil needed will vary by the analyses being conducted.
2. Using a stainless steel spoon or trowel collect the appropriate amount of soil needed for the analyses being performed into a stainless steel bowl.

3. Soil is homogenized and used to fill the appropriate sample containers provided by the laboratory.
4. Clearly label each sample with the sample ID, location, depth, and date. Secure label with packing tape and wrap in bubble wrap or other padding.
5. Sample time, date, and depth is recorded on field forms.
6. Store samples on ice at 4°C until delivered to the analytical laboratory.
7. Decontaminate reusable sampling equipment prior to reuse according to site specific procedures and/or SEI-5.1.*n Maintenance and Decontamination of Field Equipment*.

4.6 Collection of Field Quality Control Samples

Field duplicates are samples collected from the same source, at the same time, and are stored and analyzed separately. They are used to assess precision of the field sampling plan. In most geologic settings, soil heterogeneity is many times greater over small distances in the vertical dimension than it is in the horizontal dimension. As such, care should be taken to collect field duplicate samples from the same horizontal unit.

Equipment blank samples are used to assess the effectiveness of decontamination procedures. Typically, equipment blanks consist of rinsate collected from sampling equipment used to collect a sample following decontamination procedures. “PFAS-free” water should be used when collecting an equipment blank for PFAS analysis.

Trip blanks accompany the samples from the laboratory to the sampling site and transported back to the laboratory without having been exposed to sampling procedures. Trip blank samples may be required for VOCs and PFAS as indicated by the work plan or Site-Specific Quality Assurance Project Plan.

4.7 Sample Collection for Physical Properties Analyses

Soil cores will be retrieved following procedures described in section 4.2 of this SOP. Refer to site specific protocols for sample frequency. However, in general, an effort will be made to obtain samples from different stratigraphic units where variations in stratigraphy as assessed during core logging.

An effort shall be made to collect physical property samples from lesser contaminated sections of coil cores as determined by PID screening.

Each sample will be a cylindrical disc of the same diameter as the soil core retrieved, with a height of approximately 4 to 6 inches. These sections of core will be obtained such that the *in-situ* moisture conditions are retained. Soil samples will be collected for physical property analyses (porosity, bulk density, and *foc*) in the following manner:

1. Select a section of soil core to be sampled

2. Use a hacksaw to cut through plastic core liners on both ends of the desired sample. If split spoons were used carefully roll the soil core onto a clean piece of plastic wrap and remove unwanted soil with a gloved hand or knife.
3. Wrap sample tightly in clean plastic wrap. Tape plastic wrap to secure.
4. If available, place proper size end caps on both ends of sample to secure soil. If not available use additional plastic wrap to secure the core sample.
5. Clearly label each sample with the sample ID, location, depth, and date. Secure label with packing tape and wrap in bubble wrap or other padding.
6. Place samples individually in zip top polyethylene bags.
7. Store samples on ice at 4°C until delivered to the analytical laboratory.

5.0 RESPONSIBILITIES

1. All personnel will legibly record data and observations (including phone conversations) in accordance with this Standard Operating Procedure to enable others to reconstruct project events and provide sufficient evidence of activities conducted.

6.0 DEFINITIONS

1. *Observations & Remarks Form (O&R):* A pre-printed form, which contains mostly blank space for general note taking. The form typically prompts the user for the study or project designation, the SEI project number, the client or sponsor name, the total number of pages (page *n* of n) and requires a signature and date. The form is generally used to capture notes of one person when another, more specific forms is not available.

2. *Raw data* means any worksheets, records, memoranda, notes, or exact copies thereof, that are the result of original observations and activities of a study and are necessary for the reconstruction and evaluation of the report of that study. In the event that exact transcripts of raw data have been prepared (e.g., tapes which have been transcribed verbatim, dated, and verified accurate by signature), the exact copy or exact transcript may be substituted for the original source as raw data. Raw data may include photographs, microfilm or microfiche copies, computer printouts, magnetic media, including dictated observations, and recorded data from automated instruments.

3. *VOC* – Volatile Organic Compounds

4. *SVOC* – Semi-volatile Organic Compounds

5. *TPH* – Total Petroleum Hydrocarbons

6. *EPH* - Extractable Petroleum Hydrocarbons

7. *PCBs* - Polychlorinated Biphenyls

8. *PFAS* - Per- and Polyfluoroalkyl Substances

9. CFR – Code of Federal Regulations

7.0 REFERENCES

40 CFR Part 160 Good Laboratory Practice Standards, August, 1989.

EPA. 2002. "Method 5035A (SW-846): Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples," Draft Revision 1.

8.0 TABLES, DIAGRAMS, FLOWCHARTS, AND VALIDATION DATA

None

9.0 AUTHORIZATION

Revised by: Katrina J. Mattice Date: November 6, 2020

Katrina Mattice, Project Engineer

Approved by: John P. Hanzas Jr. Date: 11/10/2020

John Hanzas, President

10.0 REVISION HISTORY

Revision number 1 (SEI-6.45.0):

1. Reassigned SOP Number
2. Reformatted under new numbering scheme
3. Added definitions for CFR, and TPH/EPH
4. Removed section on VOC vial preparation
5. Added section on collection of non-biased samples for VOC analyses
6. Reorganized section 4
7. Added section on the collection of field quality control samples

Revision number 2:

1. Added Section 4.1 Collecting Discrete Soil Samples for PFAS and updated to include PFAS sampling throughout.

STANDARD OPERATING PROCEDURE

SEI-5.64.0

Procedure for Sampling Porous Surfaces for PCB Analysis

SOP Number: SEI-5.64.0	Date Issued: 08/12/2015
Revision Number: 0	Date of Revision: NA

1.0 OBJECTIVE

This Standard Operating Procedure (SOP) describes the methods for the collection of samples from porous surfaces for polychlorinated biphenyl (PCB) analysis and is in general accordance with the United States Environmental protection Agency (US EPA) Region 1 SOP entitled *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs)* (2011). Porous surfaces include both hard and soft surfaces. Hard porous surfaces include, but are not limited to, concrete, brick, asphalt, cement, sandstone, limestone, and unglazed ceramics. Soft porous surfaces include, but are not limited to, wood, wall plasterboard, low-density plastics, rubber, and caulking. The technique described within this document to collect samples for PCB analysis from hard porous surfaces uses a rotary hammer drill to generate a uniform, finely-ground powder that can be homogenized, extracted and analyzed. Procedures for sample collection from soft porous surfaces are also discussed. Samples generated using the techniques described herein may be suitable for other types of environmental analysis, with the exception of volatile organic compounds (VOCs). In most applications Stone Environmental, Inc. (Stone) utilizes this SOP to sample concrete and masonry matrices for PCB analysis.

2.0 POLICIES

1. It is the policy of Stone that all field staff conducting this methodology read this SOP prior to collecting concrete or masonry samples.
2. Personnel will legibly record data and observations in the field to enable others to reconstruct project events and provide sufficient evidence of activities conducted.
3. Field personnel will use a field logbook, observation and remark form (O&R) or other designated field form to record activities, measurements, and observations made in the field.
4. Any change in entries shall be made so as not to obscure the original entry. The recorder will error code corrections according to Stone SOP SEI-4.5.*n*.

3.0 SAFETY ISSUES

1. Whenever visiting a hazardous or potentially hazardous site, it is important to read, follow and sign the site health and safety plan (HASP).
2. Personal protective equipment (PPE) required when using a rotary hammer drill, in addition to Level D, include safety glasses and hearing protection. In addition a dust mask or half face mask air purifying respirator equipped with NIOSH P-100 filter rating should be worn during sampling to prevent the inhalation of potentially PCB contaminated dust.
3. When using hexane as a solvent for decontamination or collecting equipment blanks, use engineering controls to ensure adequate ventilation to reduce airborne concentrations below permissible exposure limits (refer to HASP and/or material safety data sheet (MSDS). Chemical resistant splash googles and Teflon gloves (silver shields) should be worn when handling hexane.
4. If necessary and appropriate, all chemicals are required to be received with MSDS or appropriate application label. These labels or MSDS shall be made available to all personnel involved in the sampling and testing.

4.0 PROCEDURES

4.1 Equipment

- Rotary impact hammer drill
- 1-inch diameter carbide, masonry drill bit
- Disposable plastic spoons (one per location plus extra)
- Power source capable of supplying 15 amps at 110 volts
- Field notebook, sample collection form, or other acceptable medium for recording field data
- Lumber crayon
- Field pocket balance
- Aluminum foil or rectangular aluminum pans (to catch concrete during wall and ceiling sampling)
- Certified clean 4-ounce glass jars and labels
- Cooler with ice
- Chain of Custody form
- Decontamination Materials
    - Solvent, such as isopropyl alcohol, Hemo De (citrus based), MyCelX, or Hexane

  - Paper towels
  - Alconox
  - Potable water
  - Rinsate solution container
  - Squirt or spray bottles
  - Garbage bags
- Personal Protective Equipment
  - Nitrile gloves
  - Teflon Gloves (e.g. Silver Shields) and chemical resistant splash goggles for use with hexane
  - Dust mask or half-mask air purifying respirator equipped with a P-100 filter cartridge
  - Safety glasses
  - Hearing protection
- Equipment Blank Materials
  - 40 mL VOA vial prepared with 5 mL of Hexane
  - 4 inch square cotton gauze
  - Stainless steel forceps

4.2 Sampling Procedures

Prior to arrival in the field, sample locations should be located and identified to meet the data quality objectives of the project. If the source of PCB contamination is regulated under the federal Toxic Substance Control Act (TSCA) PCB Regulations (40 CFR Part 761), the site specific workplan should ensure that the sampling design is sufficient to meet any investigation or verification sampling requirements. If possible, these locations should be identified on a preliminary site map or drawing. Prior to collecting the first sample the drill bit or other apparatus should be decontaminated following procedures described below. Prior to field work, verify the amount of material the contract laboratory requires for each matrix sampled.

4.2.1 Hard Porous Surfaces Sampling Procedure

Use the following steps to collect a sample for PCB analysis from hard porous surfaces:

1) Premark drill bits for desired depth of ½-inch using a lumber crayon.

2) Insert and lock drill bit in hammer drill
3) Plug drill into a power source
4) Begin drilling at the sample location. Apply even, steady downward pressure on the drill. Allow the drill to do the work. Excessive downward pressure will cause heat buildup on the drill bit and cause it to dull prematurely.
5) Advance drill to one ½-inch. One ½-inch deep hole will produce approximately 10 grams of concrete powder. To generate required sample mass (generally 40 grams for concrete), multiple holes should be drilled adjacent the first location rather than drilling deeper.
6) Place the soil jar on the balance and tare the weight.
7) Using a disposable plastic spoon, collect the powder and place it into the sample jar, ensuring the required sample mass is collected. Label jar according to site specific procedures
8) Decontaminate drill:
    a. Rinse dust from the bit using potable water. Ensure rinsate is contained within an appropriate container, such as a 5-gallon bucket or other container as specified in the site specific HASP.
    b. Wipe the bit with solvent soaked disposable cloth (using a new cloth for each sample).
    c. Scrub the bit with Alconox solution, containing rinsate.
    d. Rinse bit with potable water.
    e. Dry bit with paper towel, the bit should be dry prior to reuse.
9) Nitrile gloves should be changed between every sample.
10) Repeat steps 1 through 9 for each successive sample

Pertinent sample information, such as date and time collected, sampler name, and sample ID should be recorded on an appropriate sample form, O&R form, or field notebook. An example field form is provided as Attachment A.

A team of two samplers is required when collecting samples from walls and ceilings. One sampler operates the drill while the other catches the powder with a piece of aluminum foil or rectangular aluminum dish.

4.2.2 Soft Porous Surfaces

Tools such as a metal chisel, sharp knife, or drill with a wood bit may be utilized to collect a representative sample of soft porous surfaces, such as caulk, rubber, or wood. The selected sampling apparatus should be decontaminated following Step 8 as described in Section 4.2.1, above.

To collect samples for analysis, approximately 20 grams of material should be removed using the appropriate sampling tool and placed in a sample jar. Care should be taken to only include material consistent with the sample matrix to avoid biasing sample results low.

For sampling wood, a drill and wood bit can be used to create wood shavings. As with hard porous surfaces, adjacent ½-inch deep holes should be drilled to generate the appropriate amount of material for analysis.

4.3 Field Quality Control

Field duplicates are generally collected at a frequency of 5% (1 for every 20 original samples) in the same manner as described in Section 4.2. Refer to site specific work or quality assurance plan for site specific quality control requirements. To generate enough powder for a hard porous surface field duplicate, additional one ½-inch holes should be drilled immediately adjacent to the original field sample to create required sample mass. Additional material, immediately adjacent the primary sample, is removed using the appropriate tool to collect a field duplicate from soft porous media.

Equipment blanks should be collected in accordance with site specific work plans. Prior to collecting an equipment blank, decontaminate the drill bit or other sampling apparatus following Step 8 as described in Section 4.2.1, above. Following decontamination, equipment blanks are collecting from the sampling tool in the following manner:

1) Don silver shield gloves - Nitrile gloves are not suitable for use with hexane
2) Using forceps, remove cotton gauze from laboratory prepared equipment blank jar, which is prepared with a known quantity of hexane.
3) Use gauze to "clean" the drill bit or other sampling tool, making sure all surfaces that come in contact with samples are wiped with the gauze.
4) Return gauze to jar and leave un-capped until hexane evaporates.
5) Label in accordance with site specific protocols.

5.0 RESPONSIBILITIES

Stone staff are required to take accurate and descriptive notes. Variations from this SOP should be noted on observations and remarks (O&R) forms along with date and personnel.

Field staff members are responsible for following and implementing all procedures outlined within this SOP. Care shall be taken to avoid compromising sample and data integrity.

6.0 DEFINITIONS

1. *Decontamination* – Procedures followed to ensure cross contamination does not occur between sampling points or that potential contamination of equipment does not pose a hazard to sampling personnel.
2. *PCB:* Polychlorinated Biphenyl
3. *SOP* – Standard Operating Procedure
4. *TSCA* – Toxic Substance Control Act
5. *US EPA* – United States Environmental Protection Agency
6. *VOC*-Volatile Organic Compound

7.0 REFERENCES

Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs), Region 1, EPA-New England, May 2011.

40 CFR Part 761 – Polychlorinated Biphenyls (PCBs) Manufacturing, processing, Distribution in Commerce, and Use Prohibitions, US EPA, TSCA.

8.0 TABLES, DIAGRAMS, FLOWCHARTS, AND VALIDATION DATA

None

9.0 AUTHORIZATION

Written by: Lee Rosberg Date: 8-12-15

Lee Rosberg, Project Geologist, Stone Environmental, Inc.

Approved by: Date: 8-13-15

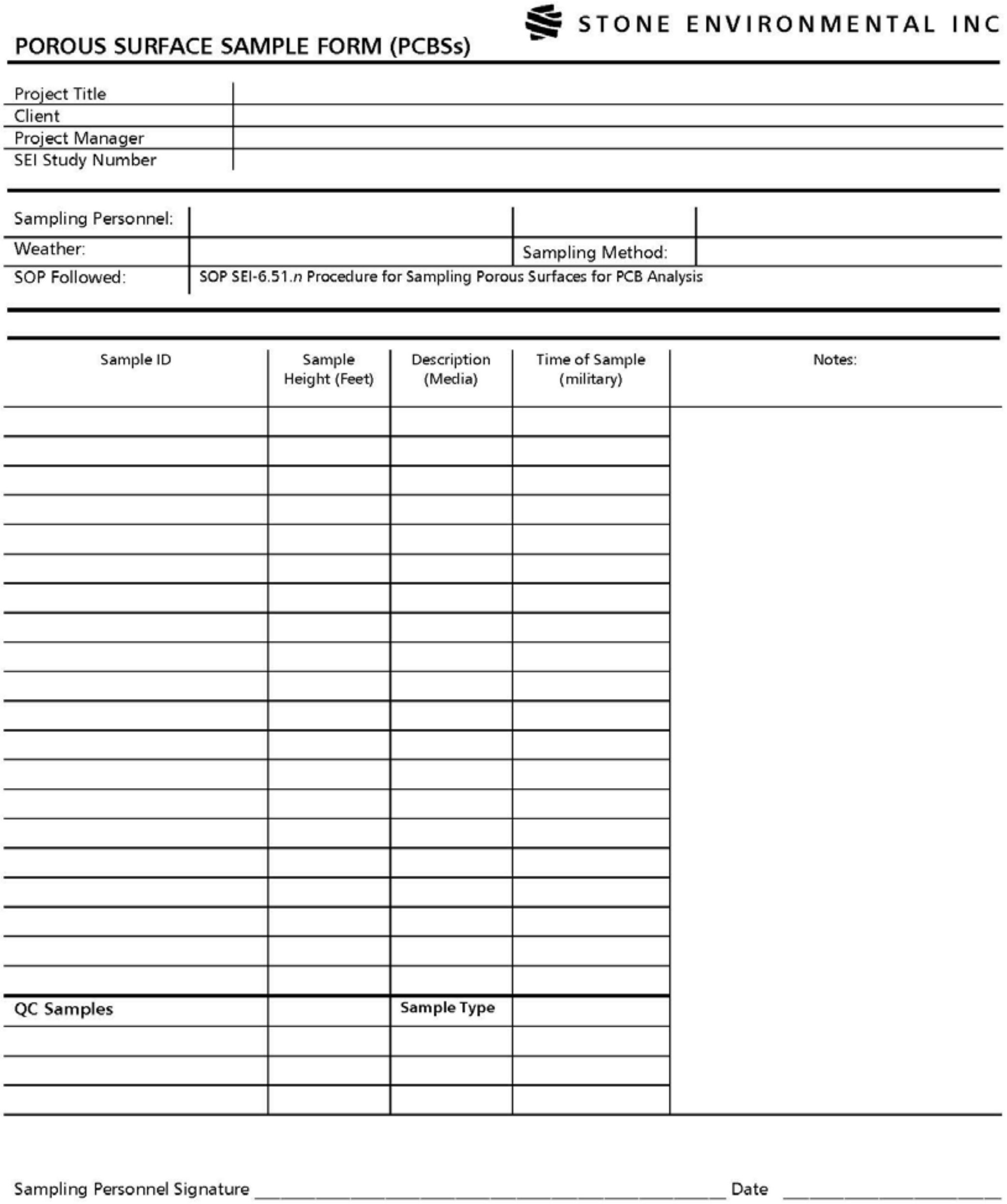
Chris Stone, President, Stone Environmental, Inc.

10.0 REVISION HISTORY

Not Applicable

Note: SOP renumbered.

ATTACHMENT 1: EXAMPLE FIELD SAMPLING FORM



STONE ENVIRONMENTAL INC

POROUS SURFACE SAMPLE FORM (PCBSs)

Project Title	
Client	
Project Manager	
SEI Study Number	

Sampling Personnel:			
Weather:		Sampling Method:	
SOP Followed:	SOP SEI-6.51.*n* Procedure for Sampling Porous Surfaces for PCB Analysis		

Sample ID	Sample Height (Feet)	Description (Media)	Time of Sample (military)	Notes:
QC Samples		**Sample Type**		

Sampling Personnel Signature ____ Date ____________________

STANDARD OPERATING PROCEDURE

SEI 5.75.0

Procedure for Collection of Composite Soil Samples

SOP Number: 5.75.0 Date Issued: 03/09/17
Revision Number: N.A. Date of Revision: N.A.

1.0 OBJECTIVE

The objective of this standard operating procedure (SOP) is to establish a protocol for compositing soil samples. Composite samples provide for broad spatial coverage of concentration data for a given media. Compositing is suitable when collecting samples to be analyzed for metals, polychlorinated biphenyls (PCBs), fraction of organic carbon content (*foc*), herbicides/pesticides, dioxins/furans, semi-volatile organic compounds (SVOCs), and other non-volatile contaminants. Care must be taken when choosing the number of locations to be included within a composite. Laboratory reporting limits need to be sufficiently low enough to meet criteria for relevant enforcement standards. Sampling locations must be chosen to meet project objectives for the data required, with care taken to ensure sample integrity. Health and safety of the sampling personnel is of utmost importance.

2.0 POLICIES

1. According to 40 CFR Part 160, Subpart E, Section 160.81, a testing facility shall have standard operating procedures in writing setting forth study methods that management is satisfied are adequate to insure the quality and integrity of the data generated in the course of a study.
2. Personnel will legibly record data and observations in the field to enable others to reconstruct project events and provide sufficient evidence of activities conducted.
3. Composite sampling methodology is not to be used for the collection of samples for Volatile Organic Compound (VOC) analyses (i.e. 8260, 8021B). Composite samples for VOC analysis will not accurately represent in situ conditions due to loss of analyte mass from mixing. VOC samples will be collected via discrete sampling methods as specified in SOP SEI- 5.58.0

3.0 SAFETY ISSUES

1. A site-specific health and safety plan (HASP) shall be created for the site. A template for creating a proper health and safety plan is provided on the Stone network.

2. If necessary and appropriate, all chemicals are required to be received with Safety Data Sheets (SDS) or appropriate application label. These labels or SDS shall be made available to all personnel involved in the sampling and testing.
3. Care must always be taken when approaching a sampling location. Do not, under any circumstances, place yourself in danger to collect a sample.

4.0 PROCEDURES

4.1 Procedure for collection of composite samples

Composite sampling consists of placing equal amounts of sample from each designated sample location into a mixing vessel then homogenizing the matrix thoroughly to create the composite. Original parent samples can be saved as an archive for future analysis.

4.1.1 Equipment and Materials

1. Stainless steel or disposal, single-use bowls. *Do not use stainless steel when the composite sample is to be analyzed for metals.*
2. Stainless steel or disposal, single-use spoons. *Do not use stainless steel when the composite sample is to be analyzed for metals.*
3. Distilled water
4. Sample Jars (125 mL wide mouth, amber glass with Teflon-lined lids or other as specified by the contract laboratory)
5. Sample Labels
6. Appropriate personnel protective equipment as specified in the HASP.
7. Field forms and writing implement
8. Cooler with ice
9. Aluminum foil

Soil sample collection tooling will vary depending on the study objectives. Tooling options range from stainless steel scoops or trowels, hand auger, to direct push drill tooling.

4.1.2 Surface Soils

1. If necessary, remove sod and/or vegetation debris from sample locations using a shovel.

2. Advance a sample tooling to a depth of 0.5 feet below ground surface (ft bgs) at each parent sample location and log soils for color, moisture content, texture, and any other salient observations, such as the presence of coal ash or other fill materials. The presence of VOCs in each parent sample location can be field screened using a field portable photoionization detector (PID).
3. Place approximately 50 to 80 grams of soil from each parent sample location into a sample bowl and homogenize thoroughly using a spoon. Large rocks and wooden debris should be removed from the sample.
4. Repeat steps 1 through 4 for each component parent sample for a given composite creating as many bowls of soil as there are parent samples for a given composite.
5. Once all parent samples are collected, place approximately 1/n*(100) grams of sample where "n" is the number of parent samples from each parent sample in to a dedicated bowl and homogenize thoroughly. Place the appropriate amount of soil in laboratory-supplied jars, as specified in the SSQAPP.

4.1.3 Soil Borings

1. Advance the Macro-core sampler using a Geoprobe to desired sample interval.
2. Remove acetate liner from core barrel and slice open using a utility knife.
3. From each interval of interest of the soil core, collect 100 grams of soil from as close to the sampling depth as possible (above and/or below) using a stainless steel spoon or scoop. Place the sample into the appropriate, labeled containers and secure the caps tightly to create the original parent sample for that core and depth interval.
4. Place the sample in a pre-iced cooler or refrigerator for archive.
5. To create the composite sample, measure out and place an additional 1/n*(100) grams of soil into a dedicated homogenization container (a stainless steel bowl) from the sample depth and repeat for each parent sample interval.
6. Once all parent samples have been collected for a given composite and placed in the homogenization container, mix thoroughly to obtain a homogenous sample representative of the entire sampled volume.
7. Place the sample into the appropriate, labeled containers and secure the caps tightly.
8. Place the sample into a pre-iced cooler until analysis.
9. Retain the remaining composite sample for a duplicate if needed; otherwise combine with remaining soil boring to be used as backfill. Decontaminate the stainless steel bowl and mixing utensil after the composite sample has been collected using a solution of Alconox and spring water rinse.

4.1.4 Soil Stockpiles

Composite samples are commonly collected from soil stockpiles to determine the waste characteristics of soil wastes for disposal. Required analyses should be specified by the facility and included within the SSQAPP or Work Plan. Methods for collecting composites from a stockpile are identical to those for surface soil samples. Archive samples are not typically retained from stockpiles, however. The number of locations will vary based on the size of the stockpile; the disposal facility may have requirements in this regard.

Discrete samples for VOC analyses can be collected from the interval exhibiting the highest PID value in conjunction with composite sampling in accordance with SEI-5.58.0. In this manner, the discrete VOC sample is assigned as the "worst case" concentration for the entire stockpile.

4.2 Collecting Field Duplicate Samples

Field duplicate samples will be collected in accordance with field quality control measures specified within the project Work Plan or Site Specific Quality Assurance Project Plan (typically one field duplicate for every 10 to 20 field samples). Duplicates of the composite samples will be taken from the remaining soil left in the homogenization container after the initial sample has been collected.

4.3 Sample Packing and Transportation

Package the samples in an insulated cooler or other sturdy container with refrigerant. Samples for offsite analyses should be sent to the laboratory as soon as is reasonable, but within the maximum holding time for the sample. Chain of custody forms will be filled out at the time of sample collection and signed prior to shipment to the laboratory and included in the shipping container with the samples.

5.0 RESPONSIBILITIES

1. All personnel will legibly record data and observations (including phone conversations) in accordance with this SOP to enable others to reconstruct project events and provide sufficient evidence of activities conducted.

6.0 DEFINITIONS

1. *Decontamination* – Procedures followed to ensure cross contamination does not occur between sampling points or that potential contamination of equipment does not pose a hazard to sampling personnel.
2. *EPA* the U.S. Environmental Protection Agency.

3. *Maintenance* – Actions performed on equipment to standardize and/or correct the accuracy and precision of a piece of equipment to ensure that the equipment is operating within the manufacturer's specifications and standard values.
4. SOP – Standard Operating Procedure
5. *PCB*- Polychlorinated biphenyl
6. *PAH*-Polycyclic Aromatic Hydrocarbon
7. *VOC*-Volatile Organic Compound
8. *PID* – Photoionization Detector
9. *SVOC*-Semi-volatile Organic Compound
10. *foc* - Fraction of organic carbon content
11. HASP - Site-specific health and safety plan
12. SSQAPP – Site specific quality assurance project plan
13. SDS - Safety Data Sheets

7.0 REFERENCES

40 CFR Part 160 Good Laboratory Practice Standards, August, 1989.

8.0 TABLES, DIAGRAMS, FLOWCHARTS, AND VALIDATION DATA

None

9.0 AUTHORIZATION

Revised by: Date: 3/5/17

Daniel Voisin, Senior Geoscientist

Approved by: Date: 3-9-17

Chris Stone, President

10.0 REVISION HISTORY

Not Applicable

STANDARD OPERATING PROCEDURE

SEI-5.99.0

Procedure for Wipe Sample Collection to Assess PCB Concentrations on Material Surfaces

SOP Number: SEI-5.99.0	Date Issued: 09/04/2020
Revision Number: 0	Date of Revision: NA

1.0 OBJECTIVE

This Standard Operating Procedure (SOP) provides a framework for the collection of samples from non-porous material surfaces (i.e. aluminum siding, steel structural members, rain gutters, automobile panels) for PCB analyses in accordance with 40 CFR §761.243 and 40 CFR §761.302. This technique is also suitable for the collection of wipe samples to verify decontamination of sampling equipment or non-porous surfaces decontaminated following procedures outlined in 40 CFR §761 Subpart S.

Wipe sample collection for presence-absence determination of PCBs may also be performed on porous surfaces using this procedure.

The analytical method should be selected to achieve project data quality objectives. This method is suitable for the collection of wipe samples for PCB analysis by SW 846 Method 8082 with manual Soxhlet extraction among others.

2.0 POLICIES

1. It is Stone's policy that all field staff conducting this methodology read this SOP prior to collecting wipe samples.
2. Field sampling personnel will legibly record data and observations in the field to enable others to reconstruct project events and provide sufficient evidence of activities conducted. Field personnel will use a field logbook, observation and remark form or other designated field form to record activities, measurements, and observations made in the field.

3.0 SAFETY ISSUES

1. All Stone field staff are required to read, sign and follow the Site Health and Safety Plan (HASP), if applicable.
2. Hexane is the solvent used in wipe samples and should only be used in well ventilated areas or with use of engineering controls, such as exhaust ventilation. If sampling cannot be completed in well ventilated areas and engineering controls are not practical based on site-specific conditions, staff are

required to use a full-face mask air purifying respirator (APR) with organic vapor cartridges. Staff donning full face masks APRs are required to undergo fit testing prior to use.

3. Eye protection and use of Teflon® gloves (e.g. “Silver Shield”) or forceps is required during sample collection.
4. Hexane should be stored in cool conditions away from any sources of ignition.

4.0 PROCEDURES

4.1 Equipment

- Laboratory prepared hexane-soaked wipes
- Laboratory provided sample containers
- Stainless steel forceps
- 10 cm by 10 cm template (disposable)
- Teflon® gloves (e.g. Silver Shields)
- Cooler with ice
- Decontamination solvent (d-limonene or isopropyl alcohol)
- PCB-free water
- Scrub brushes and buckets
- If applicable by the HASP, Full Face APR with organic vapor cartridges.

4.2 Procedure

Laboratory-prepared wipes are held with a pair of stainless-steel forceps or with Teflon® gloves and rubbed thoroughly over a 100-cm^2 area (delineated by a template – Attachment 1) of the sample surface to obtain the sample. Sample collection data are entered on an appropriate field and chain of custody forms. The number and locations of samples collected will be determined by the data quality objectives established in each site-specific work plan and/or quality assurance project plan (QAPP). Wipe sampling is conducted to characterize the degree and extent of PCB contamination in accordance with Self-Implementing Cleanups or to verify decontamination of non-porous surfaces should follow procedures detailed in 40 CFR §761.302, as follows:

1. For large, nearly flat surfaces contaminated by a single source of PCBs with a uniform concentration:
    a. Divide and mark the entire surface into 1-meter squares;
    b. If there are three or fewer squares, sample each individual square;
    c. For four or more squares, use a random number generator or table to select a minimum of 10% of the areas or three area, whichever is more;

2. For other large nearly flat surfaces, sample all 1-meter squares;
3. For small or irregularly shaped surfaces (e.g. hand tools, valves, machine tool surfaces), sample the entire surface.
4. For small nearly flat surfaces, select sample location in accordance with 40 CFR §761.308, ensuring a maximum sample area of < 1 meter.

PCB wipe samples should be replaced into the laboratory-provided sample container and labeled. Residual hexane should be allowed to evaporate prior to sealing the container. Once dry, the samples are to be transported to the contract laboratory under chain of custody procedures.

Sampling equipment should be thoroughly rinsed with solvent and wiped with a disposable cloth. New Teflon® gloves should be donned prior to collecting the next sample.

4.2.1 Compositing Wipe Samples

Composite wipe samples may be collected in accordance with 40 CFR §761.312 for surfaces contaminated by a single source of PCBs with a uniform concentration and use the composite analytical result to represent the PCB concentration of the entire surface. Composite samples consist of more than one sample gauze extracted and chemically analyzed together resulting in a single measurement. The composite measurement represents an arithmetic mean of the composited samples. 40 CFR §761.312 describes the following composite samples:

1. For small or irregularly shaped surfaces regardless of planned use or disposal – composite a maximum of 3 adjacent samples
2. For large nearly flat surfaces, composite a maximum of 10 adjacent samples.

5.0 RESPONSIBILITIES

Stone field staff are required to take accurate and descriptive notes. Variations from this SOP should be noted on observations and remarks (O&R) forms.

5.1 Field Staff

Field staff are responsible for following and implementing all procedures outline within this SOP. Care shall be taken to avoid compromising sample and data integrity.

6.0 DEFINITIONS

1. *CFR*: US Code of Federal Regulations
2. *PCB:* Polychlorinated Biphenyl
3. SOP: Standard Operating Procedure

7.0 REFERENCES

Code of Federal Regulations, Chapter 40: Protection of Environment, Part 761 – Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions. –

- Subsection 243: Standard Wipe Sample Method and Size.
- Subsection 302: Proportion of the Total Surface Area to Sample.
- Subsection 308: Sample Selection by Random Number Generation on Any Two-Dimensional Square Grid.
- Subsection 312: compositing of Samples.

8.0 TABLES, DIAGRAMS, FLOWCHARTS, AND VALIDATION DATA

None

9.0 AUTHORIZATION

Written by: ______________________ Date: 9/8/20

Lee Rosberg, Project Geologist, Stone Environmental, Inc.

Approved by: John P. Hanzas Jr. Date: 9/8/2020

John Hanzas, President, Stone Environmental, Inc..

10.0 REVISION HISTORY

Not Applicable

ATTACHMENT 1: SAMPLE TEMPLATE

Print and cut out 100 cm^2 square for use as sample template.

Appendix D: Detailed Cost Estimate

Task Number/Name		Description	Unit Rate	Unit	Units	Amount	Notes
1- Project Management, Procurement, Site Preparation, Permitting						$ 134,744.40	**Project Management over the course of the project. Assumes 8 hrs/month for 6 months. Procurement: Prepare bid packages for: 1) Non-porous surfaces decontamination. 2) Bulk product removal 3) Demolition of the Annex. 4) Concrete removal and disposal 5) Concrete slab installation. Procure contractors. Attend Site Walk. Respond to RFIs. Assumes 2 bid packages. Prepare Site for remedial actions: - Remove wastes from within the building. - Install EPSC measures. - Temporary fencing Prepare permit applications. Manage stored materials. Assumes 90% of wastes will be managed as municipal solid waste. 5% will be managed as PCB remediation waste <50 ppm. No materials will require decontamination. Collect up to 50 additional samples (wipes, solid) to confirm waste stream for stored materials.**
Professional Services					**250**	**$ 35,666.00**	
Modify Category for Modeler, Engineer, or App Developers -->	Scientist	Senior Professional 2	$ 185.00	Hours	48	$ 8,880.00	PM
	Engineer	Project Professional 1	$ 135.00	Hours	80	$ 10,800.00	Prepare bid packages, post RFBs.
	Engineer	Project Professional 1	$ 135.00	Hours	16	$ 2,160.00	Attend site walks, respond to RFIs.
	Scientist	Staff Professional 2	$ 111.00	Hours	15	$ 1,665.00	Stored materials assessment. 1 day, RT travel, prep/sample management
	Scientist	Staff Professional 2	$ 111.00	Hours	15	$ 1,665.00	Stored materials assessment. 1 day, RT travel, prep/sample management
	Scientist	Project Professional 1	$ 130.00	Hours	44	$ 5,720.00	Oversee site prep activities. Assumes 4 days in Springfield, day trips. 8 hrs on site/day 3 hrs RT travel.
	Engineer	Project Professional 1	$ 135.00	Hours	24	$ 3,240.00	NPDES Permit, Building Permit.
	Engineer	Senior Professional 2	$ 192.00	Hours	8	$ 1,536.00	Senior review of permits
Subcontractors/Consultants					**1438**	**$ 98,084.80**	
	Alva Waste Services		$ 1,200.00	dumpster	37	$ 48,840.00	Municipal Solid Waste
	Casella		$ 2,200.00	dumpster	3	$ 7,260.00	PCB Remediation Waste <50 ppm
	Erosion Log		$ 3.60	linear ft	670	$ 2,653.20	Vtrans Item #653.60
	Temp Fence		$ 48.00	linear ft	670	$ 35,376.00	Vtrans Item #620.12
	Eurofins - PCBs by 8082		$ 62.00	each	58	$ 3,955.60	Stored materials samples. 25 wipes, 25 solid samples plus 4 FDs and 4 MSMSD.
						$ -	
External Expenses					**5**	**$ 247.50**	
	Shipping/Freight		$ 125.00	Each	1	$ 137.50	
	Field Supplies & Equipment		$ 25.00	Each	4	$ 110.00	
Internal Expenses					**1024**	**$ 746.10**	
	Stone Vehicle Mileage		$ 0.66	Mile	1020	$ 668.10	
	PPE		$ 19.50	Day	4	$ 78.00	
2- Concrete Slab Removal > 50 ppm						$ 252,580.95	**Cut and remove approximately 1,475 square feet of slab containing PCBs at concentrations > 50 ppm. Disposal at US Ecology landfill in Wayne Michigan. Concrete must be 2-foot minus with protruding rebar removed. Approximately 150 square feet of machine bases will require removal of upper six-inches by grinding, wire-cutting, or pneumatic pin under wetting conditions. Contain all liquids for on-Site treatement. Dispose remaining sludge (one roll-off container) and two 55-gallon drums of granular activated carbon as PCB remediation waste. Assumes three days to complete.**
Professional Services					**48**	**$ 6,680.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	8	$ 1,480.00	Project Manager: 8 hours for subcontractor/fieldwork coordination
	Scientist	Project Professional 1	$ 130.00	Hours	40	$ 5,200.00	Project Prof: field preparation, oversight, and travel (40 hours)
Subcontractors/Consultants					**1739**	**$ 243,699.50**	
	Contractor Mobilization		$ 20,000.00	ls	1	$ 22,000.00	
	Concrete Cutting		$ 11.00	sf	1325	$ 16,032.50	
	Concrete Cutting - machine bases		$ 16.00	sf	150	$ 2,640.00	
	Concrete Cutting - above basement		$ 16.00	sf	150	$ 2,640.00	
	Containment		$ 1,250.00	day	3	$ 4,125.00	
	Transportation & Disposal - concrete		$ 1,650.00	ton	91	$ 165,165.00	
	GAC Drums		$ 600.00	ea	2	$ 1,320.00	
	Roll-Off delivery/rental		$ 2,100.00	ea	1	$ 2,310.00	
	Transportation & Disposal - sludge		$ 1,650.00	ton	12	$ 21,780.00	
	Transportation & Disposal - GAC		$ 2,500.00	ea	2	$ 5,500.00	
	Eurofins - PCBs in Water		$ 85.00	sample	2	$ 187.00	
External Expenses					**7**	**$ 1,260.60**	
	Field Supplies & Equipment		$ 600.00	Each	1	$ 660.00	Hoses, pumps, filters, fittings
	Lodging		$ 118.00	Each	3	$ 389.40	
	Meals		$ 64.00	Each	3	$ 211.20	

Internal Expenses					**384**	**$ 940.85**	
	Stone Vehicle Mileage		$ 0.66	Mile	370	$ 242.35	RT mileage with daily travel.
	Electrical Generator - Honda Eu 2000		$ 50.00	Daily	3	$ 150.00	
	Open Utility Trailer (Weekly)		$ 200.00	Weekly	1	$ 200.00	
	Small Power Tools (Drills, etc.)		$ 10.00	Daily	3	$ 30.00	
	55-Gallon Drum		$ 65.00	Each	4	$ 260.00	
	PPE		$ 19.50	Day/Staff	3	$ 58.50	
3- Concrete Slab Removal < 50 ppm						**$ 794,954.90**	**Cut and remove approximately 18,540 square feet of slab containing PCBs at concentrations < 50 ppm. Disposal at Casella landfill in Coventry, Vermont. Concrete must be 2-foot minus with protruding rebar removed. Approximately 2,560 square feet of machine bases will require removal of upper six-inches by grinding, wire-cutting, or pneumatic pin under wetting conditions. Contain all cutting liquids in lined roll-off to separate concrete slurry from water. Treat water for on-Site discharege - GAC, pump, hose/fittings, and filter costs carried in Task 1. Dispose remaining sludge (one roll-off) . Assumes ten days to complete.** **Contractor mobilization carried in Task 1**
Professional Services					**136**	**$ 18,560.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	16	$ 2,960.00	Project Manager: 16 hours for subcontractor/fieldwork coordination
	Scientist	Project Professional 1	$ 130.00	Hours	120	$ 15,600.00	Project Prof: field preparation, oversight, and travel (120 hours)
	Scientist					$ -	
Subcontractors/Consultants					**19611**	**$ 772,827.00**	
	Concrete Cutting		$ 11.00	sf	14330	$ 173,393.00	
	Concrete Cutting - machine bases		$ 16.00	sf	2560	$ 45,056.00	
	Concrete Cutting - above basement		$ 16.00	sf	1550	$ 27,280.00	
	Containment		$ 1,250.00	day	10	$ 13,750.00	
	Transportation & Disposal - concrete		$ 392.00	ton	1140	$ 491,568.00	
	Transportation & Disposal - sludge		$ 1,650.00	ton	10	$ 18,150.00	
	Roll-Off delivery/rental		$ 2,100.00	ea	1	$ 2,310.00	
	Transportation & Disposal - sludge		$ 120.00	ton	10	$ 1,320.00	
						$ -	
External Expenses					**20**	**$ 2,002.00**	
	Lodging		$ 118.00	Each	10	$ 1,298.00	
	Meals		$ 64.00	Each	10	$ 704.00	
Internal Expenses					**814**	**$ 1,565.90**	
	Stone Vehicle Mileage		$ 0.66	Mile	780	$ 510.90	2 RT trips plus 10 miles/day for 10 days
	Electrical Generator - Honda Eu 2000		$ 50.00	Daily	10	$ 500.00	
	Small Power Tools (Drills, etc.)		$ 10.00	Daily	10	$ 100.00	
	55-Gallon Drum		$ 65.00	Each	4	$ 260.00	
	PPE		$ 19.50	Day/Staff	10	$ 195.00	
						$ -	

4- Decontaminate Non Porous Surfaces						$ 127,169.95	**Decontaminate gantry crane, crane rails, and steel sliding doors in accordance with 40 CFR 762 Subpart S.** **Stone to provide oversight during decontamination.** **Collect standard hexane wipe cleanup verification samples to confirm removal of PCBs. Assumes 66 wipes, 4 FDs, 4 MS/MSDs** **Dispose wire spool as PCB remediation waste. Drain oils from crane and dispose as PCB remediation waste. Disposal all liquid and solid cleaning materials as separate PCB remediation waste streams.**
Professional Services					**122**	**$ 16,436.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	16	$ 2,960.00	Project Manager: 16 hours for subcontractor/field work coordination
	Scientist	Project Professional 1	$ 130.00	Hours	90	$ 11,700.00	Project Prof: field preparation, oversight, and travel (90 hours)
	Scientist	Staff Professional 2	$ 111.00	Hours	16	$ 1,776.00	Staff Sci 2: verification sampling, assumes 30 wipes/day
Subcontractors/Consultants					**5148**	**$ 105,025.80**	
	Contractor Mobilization		$ 2,500.00	ls	1	$ 2,750.00	
	Labor & Equipment - Wipe Cleaning		$ 3,500.00	day	10	$ 38,500.00	
	Labor & Equipment - Media Blasting		$ 3,400.00	day	4	$ 14,960.00	
	Disposal - Liquids		$ 1,750.00	drum	6	$ 11,550.00	
	Disposal - Solids		$ 1,250.00	drum	6	$ 8,250.00	
	Disposal - Wire Spool		$ 3.50	lb.	5000	$ 19,250.00	
	Waste Characteristics - Liquid		$ 750.00	Each	1	$ 825.00	Assumes not more than 10 drums of liquid
	Waste Characteristics - Solid		$ 750.00	Each	1	$ 825.00	Assumes 1 sample for solids
						$ -	
	PCB Samples - Verification Wipes		$ 62.00	sample	108	$ 7,365.60	Crane rails: 36 samples; Crane: 44; Sliding door: 18 plus 5 FDs and 5 MS/MSDs
	PCB Samples - Equipment Wipes		$ 62.00	sample	11	$ 750.20	Assumes 10 wipes to verifiy remedial equipment decontamination plus one field duplicate. .
External Expenses					**20**	**$ 4,261.40**	
	Lodging		$ 118.00	Each	7	$ 908.60	
	Meals		$ 64.00	Each	7	$ 492.80	
	Shipping/Freight		$ 125.00	Each	4	$ 550.00	
	Field Supplies & Equipment		$ 100.00	Each	1	$ 110.00	
	Rental-Field Equipment		$ 2,000.00	Each	1	$ 2,200.00	Weekly scissor lift
Internal Expenses					**771**	**$ 1,446.75**	
	Stone Vehicle Mileage		$ 0.66	Mile	750	$ 491.25	
	55-Gallon Drum		$ 65.00	Each	12	$ 780.00	
	PPE		$ 19.50	Day/Staff	9	$ 175.50	
						$ -	
5-Post-Slab Removal Confirmation Sampling						$ 24,784.45	**Collect soil samples along a 20-foot grid. Collect concrete samples from machine bases at a frequency of 2 to 6 per base.** **Field duplicates and MS/MSDs collected at 5% frequency. One equipment blank collected per day sampling is conducted.** **Total area: 20,528 sq ft/1907 sq meters consisting of ~275 square meters of concrete (machine bases) and ~1,633 square meters of soil.**
Professional Services					**104**	**$ 12,790.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	4	$ 740.00	Project Manager: 1 hr / day.
	Scientist	Project Professional 1	$ 130.00	Hours	50	$ 6,500.00	4 days, 10 hrs/each, 10 hrs travel, prep, data and sample management
	Scientist	Staff Professional 2	$ 111.00	Hours	50	$ 5,550.00	4 days, 10 hrs/each, 10 hrs travel, prep, data and sample management
Subcontractors/Consultants					**139**	**$ 9,479.80**	
	Phoenix - PCBs in soil		$ 62.00	sample	92	$ 6,274.40	82 Samples plus 5 FDs and 5 MS/MSDs
	Phoenix - PCBs in concrete		$ 62.00	sample	47	$ 3,205.40	41 samples plus 3 FDs and 3 MS/MSDs
External Expenses					**23**	**$ 1,959.10**	
	Field Supplies & Equipment		$ 25.00	Each	5	$ 137.50	
	Shipping/Freight		$ 100.00	Each	2	$ 220.00	
	Meals		$ 64.00	Each	8	$ 563.20	
	Lodging		$ 118.00	Each	8	$ 1,038.40	
Internal Expenses					**222**	**$ 555.55**	
	Stone Vehicle Mileage		$ 0.66	Mile	210	$ 137.55	1 Round trip with 10 miles daily travel for 4 days
	PPE		$ 19.50	Day/Staff	4	$ 78.00	
	DeWalt Hammer Drill		$ 35.00	Daily	4	$ 140.00	
	Electrical Generator - Honda Eu 2000		$ 50.00	Daily	4	$ 200.00	

6- Annex Demolition						$ 122,794.50	**Annex to be demolished and disposed of PCB bulk product waste. Stone to conduct dust monitoring during demolition. Assumes demolition is completed in ten days. Cutting and disposal of slab carried under Task 2** **Decontaminate metal stairs for recycling. Collect up to 3 confirmation samples from stairs. Collect 7 soil samples for confirmation of exterior surface soils.** **Note: Dust monitor rental assumes 4 units for half a month each; the remaining 0.5 months is included in Task 6.** **Sampling to be performed by oversight staff.**
Professional Services					**130**	**$ 18,000.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	20	$ 3,700.00	
	Scientist	Project Professional 1	$ 130.00	Hours	110	$ 14,300.00	
	Scientist					$ -	
Subcontractors/Consultants					**3293**	**$ 97,310.40**	
	Contractor Mobilization		$ 15,000.00	LS	1	$ 16,500.00	
	Demolition		$ 15.00	sq ft	2800	$ 46,200.00	
	Transportation & Disposal - Brick		$ 120.00	ton	180	$ 23,760.00	
	Transportation & Disposal - Roof Materials		$ 120.00	ton	60	$ 7,920.00	
	District Fee		$ 8.00	ton	240	$ 2,112.00	
	Phoenix - Wipes		$ 62.00	sample	3	$ 204.60	
	Phoenix - PCBs in soil		$ 62.00	sample	9	$ 613.80	
						$ -	
External Expenses					**23**	**$ 6,778.20**	
	Rental-Field Equipment		$ 2,046.00	Each	2	$ 4,501.20	Dust Monitors, weekly
	Field Supplies & Equipment		$ 250.00	Each	1	$ 275.00	
	Meals		$ 64.00	Each	10	$ 704.00	
	Lodging		$ 118.00	Each	10	$ 1,298.00	
Internal Expenses					**790**	**$ 705.90**	
	Stone Vehicle Mileage		$ 0.66	Mile	780	$ 510.90	2 RT trips plus 10 miles/day for 10 days
	PPE		$ 19.50	Day/Staff	10	$ 195.00	
7- Paint Removal						$ 420,199.40	**Sandblasting cost includes all materials, equipment, and labor necessary to sandblast all ceilings, beams, columns, and walls of former Plant #4 building - assumes a total of 32,190 square feet. Sanblasting sub fee includes paint and sandblast disposal. Conduct dust monitoring.** **Collect wipe samples along a 20 foot grid of abated surfaces (114 samples, plus 5% field duplicates, 5% MS/MSDs, 20 spares.).**
Professional Services					**224**	**$ 28,434.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	20	$ 3,700.00	Project Manager - manage subcontractor contract and coordinate field work.
	Scientist	Project Professional 1	$ 130.00	Hours	110	$ 14,300.00	Proj. Professional - Daily site inspections and manage dust monitors.
	Scientist	Staff Professional 2	$ 111.00	Hours	80	$ 8,880.00	Staff Professional - Confirmation Sampling. Assumes 30 samples/day for 4 days. Prep and manage samples.
	Scientist	Staff Professional 2	$ 111.00	Hours	14	$ 1,554.00	Indoor Air Sampling: 2 hrs onsite/3 hrs RT Travel, 2 trips. 2 hrs sample and equipment management.
Subcontractors/Consultants					**159**	**$ 379,733.20**	
	New England Sandblasting, LLC		$ 327,200.00	ls	1	$ 359,920.00	
	Phoenix: PCBs wipe		$ 62.00	sample	146	$ 9,957.20	
	Liquid Disposal		$ 1,930.00	drum	4	$ 8,492.00	Decontamination fluids
	Eurofins - PCBs in Air by TO-10		$ 155.00	sample	8	$ 1,364.00	5 samples, 1 FD, 1 FB, 1 AA
External Expenses					**60**	**$ 10,517.10**	
	Field Supplies & Equipment		$ 25.00	Each	15	$ 412.50	
	Rental-Field Equipment		$ 2,046.00	Each	2	$ 4,501.20	dust monitors
	Shipping/Freight		$ 125.00	Each	4	$ 550.00	
	Meals		$ 64.00	Each	17	$ 1,196.80	
	Lodging		$ 118.00	Each	17	$ 2,206.60	
	Rental-Field Equipment		$ 250.00	Each	4	$ 1,100.00	Lift.
	Rental-Field Equipment		$ 500.00	Each	1	$ 550.00	Delivery
Internal Expenses					**1155**	**$ 1,515.10**	
	Stone Vehicle Mileage		$ 0.66	Mile	1120	$ 733.60	3 RT trips plus 10 miles/day for 10 days with overnight stays.
	PPE		$ 19.50	Day/Staff	17	$ 331.50	
	SKC Chek Mate Calibrator		$ 25.00	Daily	2	$ 50.00	
	SKC Airchek 52		$ 25.00	Daily	16	$ 400.00	

8- Concrete Installation						$ 623,688.28	**Install 6-inch concrete slab across 17,000 square foot foundry building after annex removal. Assumes that cut soils from construction of new building will be placed and compacted in basement.** **Up to five inspections by project professional.**
Professional Services					**70**	**$ 9,650.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	10	$ 1,850.00	
	Scientist	Project Professional 1	$ 130.00	Hours	60	$ 7,800.00	
	Scientist					$ -	
Subcontractors/Consultants					**20230**	**$ 612,884.53**	
	Concrete Installation		$ 1,527.00	CY	314	$ 527,425.80	
	Vapor Barrier		$ 3.65	sq ft	19915	$ 79,958.73	
	Concrete Contractor Mobilization		$ 5,000.00	LS	1	$ 5,500.00	
External Expenses					**8**	**$ 800.80**	
	Meals		$ 64.00	Each	4	$ 281.60	
	Lodging		$ 118.00	Each	4	$ 519.20	
Internal Expenses					**395**	**$ 352.95**	
	Stone Vehicle Mileage		$ 0.66	Mile	390	$ 255.45	1 round trip plus 10 miles/day for 5 days
	PPE		$ 19.50	Day/Staff	5	$ 97.50	
9- Groundwater Sampling and Well Abandonment						$ 9,746.80	**Collect groundwater sample from GW-3 for total and dissolved (filtered) PAH analysis, total metals, and VOCs.** **Abandon seven groundwater monitoring wells ina ccordance with Vermont Water Supply Rule.**
Professional Services					**20**	**$ 2,706.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	4	$ 740.00	
	Scientist	Project Professional 1	$ 130.00	Hours	10	$ 1,300.00	
	Scientist	Staff Professional 2	$ 111.00	Hours	6	$ 666.00	
Subcontractors/Consultants					**21**	**$ 6,414.65**	
	Platform - Mobilization		$ 750.00	ls	1	$ 825.00	
	Platform - Geoprobe daily rate		$ 1,850.00	day	1	$ 2,035.00	
	Platform - Consumables		$ 2,000.00	ls	1	$ 2,200.00	
	Eurofins - PAHs by SIM		$ 160.00	sample	4	$ 704.00	3 samples, 1 FD
	Eurofins - PP Metals		$ 71.00	sample	4	$ 312.40	3 samples, 1 FD
	Eurofins - VOCs in Groundwater		$ 58.00	sample	5	$ 319.00	3 samples, 1 FD, I TB
	Eurofins - Sample disposal		$ 3.50	sample	5	$ 19.25	5 samples
External Expenses					**3**	**$ 324.50**	
	Field Supplies & Equipment		$ 25.00	Each	1	$ 27.50	
	Rental-Field Equipment		$ 145.00	Each	1	$ 159.50	
	Shipping/Freight		$ 125.00	Each	1	$ 137.50	
Internal Expenses					**205**	**$ 301.65**	
	1/4" OD FEP tubing		$ 2.00	Feet	30	$ 60.00	
	L15 Peristaltic Pump tubing		$ 2.80	Feet	1	$ 2.80	
	Multi-Parameter Meter Calibration Solutions		$ 5.90	Day/Unit	1	$ 5.90	
	.45 micron filter (medium capacity)		$ 16.60	Each	1	$ 16.60	
	Peristaltic Pump (EAR)		$ 75.00	Daily	1	$ 75.00	
	Water Level Meter/Indicator		$ 30.00	Daily	1	$ 30.00	
	Stone Vehicle Mileage		$ 0.66	Mile	170	$ 111.35	Round trip
10- CACCR						$ 13,680.00	**Draft CACCR.** **Senior Review/meetings: 8 hours** **Project Manager: draft report 40 hours** **Staff Scientist: data management/assist with report draft (20 hours)** **Staff Scientist: draft as built figures (32 hours)**
Professional Services					**100**	**$ 13,280.00**	
	Scientist	Senior Professional 2	$ 185.00	Hours	8	$ 1,480.00	Senior review, PM, Meetings
	Scientist	Project Professional 1	$ 130.00	Hours	40	$ 5,200.00	Project Scientist: draft report.
	Engineer	Staff Professional 3	$ 125.00	Hours	32	$ 4,000.00	Data management, drafting report
	Scientist	Project Professional 1	$ 130.00	Hours	20	$ 2,600.00	Figures.
Subcontractors/Consultants					**0**	**$ -**	
External Expenses					**0**	**$ -**	
Internal Expenses					**40**	**$ 400.00**	
	AutoCAD Civil 3D		$ 10.00	Hour	40	$ 400.00	
GRAND TOTAL						**$ 2,524,343.63**	

Appendix E: Laboratory Analytical Reports

PHOENIX
Environmental Laboratories, Inc.

Friday, December 22, 2023

Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Project ID: **EDGAR MAY**
SDG ID: **GCP65148**
Sample ID#s: **CP65148 - CP65165**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

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

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

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

Sample Id Cross Reference

December 22, 2023

SDG I.D.: GCP65148

Project ID: EDGAR MAY

Client Id	Lab Id	Matrix
CN-249	CP65148	CONCRETE
CN-250	CP65149	CONCRETE
CN-251	CP65150	CONCRETE
CN-251-FD	CP65151	CONCRETE
CN-252	CP65152	CONCRETE
WP-04	CP65153	WIPE
WP-05	CP65154	WIPE
WP-06	CP65155	WIPE
WP-07	CP65156	WIPE
WP-08	CP65157	WIPE
WP-09	CP65158	WIPE
WP-10	CP65159	WIPE
WP-05-FD	CP65160	WIPE
WP-11	CP65161	WIPE
WP-12	CP65162	WIPE
WP-13	CP65163	WIPE
WP-07-FD	CP65164	WIPE
EB-120823	CP65165	WIPE

PHOENIX

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	CONCRETE	Collected by:	LR	12/08/23	10:40
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65148

Project ID: EDGAR MAY
Client ID: CN-249

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	98		%		12/12/23	CV	SW846-%Solid
Extraction for PCB	Completed				12/12/23	J/AC1	SW3540C
PCB (Soxhlet SW3540C)							
PCB-1016	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1221	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1232	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1242	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1248	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1254	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1260	6000	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1262	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1268	ND	800	ug/Kg	5	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	80		%	5	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	80		%	5	12/13/23	SC	30 - 150 %
% TCMX	66		%	5	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	65		%	5	12/13/23	SC	30 - 150 %

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

Comments:

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

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

PHOENIX

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	CONCRETE	Collected by:	LR	12/08/23	10:44
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65149

Project ID: EDGAR MAY
Client ID: CN-250

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	97		%		12/12/23	CV	SW846-%Solid
Extraction for PCB	Completed				12/12/23	J/AC1	SW3540C
PCB (Soxhlet SW3540C)							
PCB-1016	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1221	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1232	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1242	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1248	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1254	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1260	2700	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1262	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1268	ND	810	ug/Kg	5	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	87		%	5	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	79		%	5	12/13/23	SC	30 - 150 %
% TCMX	88		%	5	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	87		%	5	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: CN-250

Phoenix I.D.: CP65149

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	CONCRETE	Collected by:	LR	12/08/23	10:54
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65150

Project ID: EDGAR MAY
Client ID: CN-251

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	99		%		12/12/23	CV	SW846-%Solid
Extraction for PCB	Completed				12/12/23	J/AC1	SW3540C
PCB (Soxhlet SW3540C)							
PCB-1016	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1221	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1232	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1242	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1248	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1254	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1260	3800	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1262	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1268	ND	790	ug/Kg	5	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	86		%	5	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	80		%	5	12/13/23	SC	30 - 150 %
% TCMX	85		%	5	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	85		%	5	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: CN-251

Phoenix I.D.: CP65150

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	CONCRETE	Collected by:	LR	12/08/23	10:54
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65151

Project ID: EDGAR MAY
Client ID: CN-251-FD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	99		%		12/12/23	CV	SW846-%Solid
Extraction for PCB	Completed				12/12/23	J/AC1	SW3540C
PCB (Soxhlet SW3540C)							
PCB-1016	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1221	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1232	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1242	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1248	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1254	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1260	3500	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1262	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1268	ND	820	ug/Kg	5	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	74		%	5	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	71		%	5	12/13/23	SC	30 - 150 %
% TCMX	78		%	5	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	78		%	5	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: CN-251-FD

Phoenix I.D.: CP65151

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	CONCRETE	Collected by:	LR	12/08/23	10:58
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65152

Project ID: EDGAR MAY
Client ID: CN-252

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	98		%		12/12/23	CV	SW846-%Solid
Extraction for PCB	Completed				12/12/23	J/AC1	SW3540C
PCB (Soxhlet SW3540C)							
PCB-1016	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1221	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1232	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1242	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1248	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1254	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1260	6100	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1262	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
PCB-1268	ND	840	ug/Kg	5	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	88		%	5	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	83		%	5	12/13/23	SC	30 - 150 %
% TCMX	87		%	5	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	84		%	5	12/13/23	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	11:28
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65153

Project ID: EDGAR MAY
Client ID: WP-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	1.1	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	86		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	75		%	1	12/13/23	SC	30 - 150 %
% TCMX	50		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	51		%	1	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-04

Phoenix I.D.: CP65153

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	11:30
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65154

Project ID: EDGAR MAY
Client ID: WP-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1260	0.78	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/14/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	80		%	1	12/14/23	SC	30 - 150 %
% DCBP (Confirmation)	84		%	1	12/14/23	SC	30 - 150 %
% TCMX	48		%	1	12/14/23	SC	30 - 150 %
% TCMX (Confirmation)	53		%	1	12/14/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-05

Phoenix I.D.: CP65154

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	11:56
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65155

Project ID: EDGAR MAY
Client ID: WP-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1260	1.0	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/14/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	74		%	1	12/14/23	SC	30 - 150 %
% DCBP (Confirmation)	78		%	1	12/14/23	SC	30 - 150 %
% TCMX	65		%	1	12/14/23	SC	30 - 150 %
% TCMX (Confirmation)	68		%	1	12/14/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-06

Phoenix I.D.: CP65155

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	11:55
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65156

Project ID: EDGAR MAY
Client ID: WP-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	85		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	81		%	1	12/13/23	SC	30 - 150 %
% TCMX	60		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	59		%	1	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-07

Phoenix I.D.: CP65156

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	12:02
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65157

Project ID: EDGAR MAY
Client ID: WP-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1260	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/14/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	76		%	1	12/14/23	SC	30 - 150 %
% DCBP (Confirmation)	82		%	1	12/14/23	SC	30 - 150 %
% TCMX	50		%	1	12/14/23	SC	30 - 150 %
% TCMX (Confirmation)	54		%	1	12/14/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-08

Phoenix I.D.: CP65157

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director

December 22, 2023

Reviewed and Released by: Phyllis Shiller, Laboratory Director

PHOENIX

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information

Matrix: WIPE
Location Code: STONENV
Rush Request: Standard
P.O.#: 20-069

Custody Information		Date	Time
Collected by:	LR	12/08/23	12:09
Received by:	CP	12/12/23	11:30
Analyzed by:	see "By" below		

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65158

Project ID: EDGAR MAY
Client ID: WP-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	0.90	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	84		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	99		%	1	12/13/23	SC	30 - 150 %
% TCMX	61		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	60		%	1	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-09

Phoenix I.D.: CP65158

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

PHOENIX

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

Analysis Report

December 22, 2023

FOR:
Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	12:13
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65159

Project ID: EDGAR MAY
Client ID: WP-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	85		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	84		%	1	12/13/23	SC	30 - 150 %
% TCMX	95		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	91		%	1	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY

Client ID: WP-10

Phoenix I.D.: CP65159

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

PHOENIX

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	11:30
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65160

Project ID: EDGAR MAY
Client ID: WP-05-FD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1260	1.5	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/14/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	81		%	1	12/14/23	SC	30 - 150 %
% DCBP (Confirmation)	88		%	1	12/14/23	SC	30 - 150 %
% TCMX	56		%	1	12/14/23	SC	30 - 150 %
% TCMX (Confirmation)	60		%	1	12/14/23	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	12:16
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65161

Project ID: EDGAR MAY
Client ID: WP-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	83		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	72		%	1	12/13/23	SC	30 - 150 %
% TCMX	70		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	68		%	1	12/13/23	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	12:20
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65162

Project ID: EDGAR MAY
Client ID: WP-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1260	1.7	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/14/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/14/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	75		%	1	12/14/23	SC	30 - 150 %
% DCBP (Confirmation)	79		%	1	12/14/23	SC	30 - 150 %
% TCMX	42		%	1	12/14/23	SC	30 - 150 %
% TCMX (Confirmation)	48		%	1	12/14/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-12

Phoenix I.D.: CP65162

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	12:22
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65163

Project ID: EDGAR MAY
Client ID: WP-13

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	0.66	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	73		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	73		%	1	12/13/23	SC	30 - 150 %
% TCMX	59		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	58		%	1	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-13

Phoenix I.D.: CP65163

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

PHOENIX

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

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	11:55
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65164

Project ID: EDGAR MAY
Client ID: WP-07-FD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	67		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	70		%	1	12/13/23	SC	30 - 150 %
% TCMX	43		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	42		%	1	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: WP-07-FD

Phoenix I.D.: CP65164

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Analysis Report

December 22, 2023

FOR: Attn: Daniel Voisin
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

Sample Information		Custody Information		Date	Time
Matrix:	WIPE	Collected by:	LR	12/08/23	12:45
Location Code:	STONENV	Received by:	CP	12/12/23	11:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20-069				

Laboratory Data

SDG ID: GCP65148
Phoenix ID: CP65165

Project ID: EDGAR MAY
Client ID: EB-120823

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Wipe Extraction	Completed				12/12/23	J/AC1	SW3540C
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1221	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1232	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1242	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1248	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1254	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1260	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1262	ND	0.50	ug	1	12/13/23	SC	SW8082A
PCB-1268	ND	0.50	ug	1	12/13/23	SC	SW8082A
QA/QC Surrogates							
% DCBP	82		%	1	12/13/23	SC	30 - 150 %
% DCBP (Confirmation)	84		%	1	12/13/23	SC	30 - 150 %
% TCMX	80		%	1	12/13/23	SC	30 - 150 %
% TCMX (Confirmation)	76		%	1	12/13/23	SC	30 - 150 %

Project ID: EDGAR MAY
Client ID: EB-120823

Phoenix I.D.: CP65165

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

QA/QC Report

December 22, 2023

QA/QC Data

SDG I.D.: GCP65148

QA/QC Batch 709936 (ug), QC Sample No: CP64334 (CP65153, CP65154, CP65155, CP65156, CP65157, CP65158, CP65159, CP65160, CP65161, CP65162, CP65163, CP65164, CP65165)

Polychlorinated Biphenyl

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
PCB-1016	ND	0.50	62	61	1.6				40 - 140	30	
PCB-1221	ND	0.50							40 - 140	30	
PCB-1232	ND	0.50							40 - 140	30	
PCB-1242	ND	0.50							40 - 140	30	
PCB-1248	ND	0.50							40 - 140	30	
PCB-1254	ND	0.50							40 - 140	30	
PCB-1260	ND	0.50	66	67	1.5				40 - 140	30	
PCB-1262	ND	0.50							40 - 140	30	
PCB-1268	ND	0.50							40 - 140	30	
% DCBP (Surrogate Rec)	74	%	76	82	7.6				30 - 150	30	
% DCBP (Surrogate Rec) (Confirm	81	%	82	86	4.8				30 - 150	30	
% TCMX (Surrogate Rec)	76	%	79	76	3.9				30 - 150	30	
% TCMX (Surrogate Rec) (Confirm	76	%	83	81	2.4				30 - 150	30	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 709932 (ug/Kg), QC Sample No: CP64920 10X (CP65148, CP65149, CP65150, CP65151)

Polychlorinated Biphenyls

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
PCB-1016	ND	170	43	61	34.6				40 - 140	30	r
PCB-1221	ND	170							40 - 140	30	
PCB-1232	ND	170							40 - 140	30	
PCB-1242	ND	170							40 - 140	30	
PCB-1248	ND	170							40 - 140	30	
PCB-1254	ND	170							40 - 140	30	
PCB-1260	ND	170	72	117	47.6				40 - 140	30	r
PCB-1262	ND	170							40 - 140	30	
PCB-1268	ND	170							40 - 140	30	
% DCBP (Surrogate Rec)	108	%	104	91	13.3				30 - 150	30	
% DCBP (Surrogate Rec) (Confirm	105	%	103	113	9.3				30 - 150	30	
% TCMX (Surrogate Rec)	96	%	35	53	40.9				30 - 150	30	r
% TCMX (Surrogate Rec) (Confirm	97	%	37	55	39.1				30 - 150	30	r

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 709933 (ug/Kg), QC Sample No: CP65152 10X (CP65152)

Polychlorinated Biphenyls

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
PCB-1016	ND	170	96	95	1.0				40 - 140	30	
PCB-1221	ND	170							40 - 140	30	
PCB-1232	ND	170							40 - 140	30	
PCB-1242	ND	170							40 - 140	30	
PCB-1248	ND	170							40 - 140	30	

QA/QC Data

SDG I.D.: GCP65148

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	101	103	2.0				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	84	%	101	101	0.0				30 - 150	30
% DCBP (Surrogate Rec) (Confirm	86	%	101	102	1.0				30 - 150	30
% TCMX (Surrogate Rec)	65	%	80	83	3.7				30 - 150	30
% TCMX (Surrogate Rec) (Confirm	67	%	83	85	2.4				30 - 150	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 22, 2023

Friday, December 22, 2023

Criteria: None

State: VT

Sample Criteria Exceedances Report

GCP65148 - STONENV

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CP65148	$PCB_SOXR	PCB-1221	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1232	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1242	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1248	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1254	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1260	VT / Requested PCB RL /	6000	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1262	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1268	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65148	$PCB_SOXR	PCB-1016	VT / Requested PCB RL /	ND	800	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1221	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1268	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1262	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1260	VT / Requested PCB RL /	2700	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1254	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1248	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1232	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1016	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65149	$PCB_SOXR	PCB-1242	VT / Requested PCB RL /	ND	810	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1254	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1016	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1221	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1232	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1260	VT / Requested PCB RL /	3800	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1262	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1268	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1242	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65150	$PCB_SOXR	PCB-1248	VT / Requested PCB RL /	ND	790	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1254	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1268	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1260	VT / Requested PCB RL /	3500	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1248	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1242	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1232	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1221	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1016	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65151	$PCB_SOXR	PCB-1262	VT / Requested PCB RL /	ND	820	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1268	VT / Requested PCB RL /	ND	840	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1016	VT / Requested PCB RL /	ND	840	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1221	VT / Requested PCB RL /	ND	840	50	50	ug/Kg

Criteria: None

State: VT

Sample Criteria Exceedances Report

GCP65148 - STONENV

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CP65152	$PCB_SOXR	PCB-1232	VT / Requested PCB RL /	ND	840	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1242	VT / Requested PCB RL /	ND	840	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1248	VT / Requested PCB RL /	ND	840	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1254	VT / Requested PCB RL /	ND	840	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1260	VT / Requested PCB RL /	6100	840	50	50	ug/Kg
CP65152	$PCB_SOXR	PCB-1262	VT / Requested PCB RL /	ND	840	50	50	ug/Kg

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

Analysis Comments

December 22, 2023 SDG I.D.: GCP65148

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

PCB Narration

AU-ECD1 12/13/23-1: CP65148, CP65149, CP65150, CP65151

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CP65149
Preceding CC D13B019 - PCB 1260 17%L (%)
Succeeding CC D13B032 - None.

AU-ECD29 12/13/23-1: CP65153, CP65156, CP65158, CP65159, CP65161, CP65163, CP65164, CP65165

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CP65153, CP65156, CP65158, CP65159, CP65161, CP65163, CP65164, CP65165
Preceding CC D13A018 - PCB 1260 29%H (%)
Succeeding CC D13A032 - None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐

PHOENIX
Environmental Laboratories, Inc.

CT/MA/RI CHAIN OF CUSTODY RECORD

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

Temp 1.2 °C Pg of

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☒ Email: dvoisin@stone-env.com

Customer: Stone Environmental Inc.
Address: 535 Stone Cutters Way
Montpelier VT 05602

Project: Edgar May
Report to: Dan Voisin
Invoice to: Stone Env
Quote #

Project P.O: 20-069

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature L. Rajical Date: 12/8/23

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

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	PCBs 8082 3OX											GL Amber 8 oz. [ ] w/H$_3$PO$_4$ [ ] NAHSO$_4$	Soil VOA Vials [ ] methanol [ ] H$_2$O	GL Soil container (4) oz	GL Soil container (4) oz Hexane	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H$_2$SO$_4$	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H$_2$SO$_4$ [ ] 250ml [ ] 500ml	PL HNO$_3$ 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
65148	CN-249	X	12/8/23	1040		X													X									
65149	CN-250	X		1044		X													X									
65150	CN-251	X		1054		X													X									
65151	CN-251-FD	X		1054		X													X									
65152	CN-252	X		1058		X													X									
65153	WP-04	WP		1128		X														X								
65154	WP-05	WP		1130		X														X								
65155	WP-06	WP		1156		X														X								
65156	WP-07	WP		1155		X														X								
65157	WP-08	WP		1202		X														X								
65158	WP-09	WP		1209		X														X								
65159	WP-10	WP		1213		X														X								

Relinquished by:	Accepted by:	Date:	Time:
L. Rajical	FedEx	12/11/23 ~~12/8/23~~	1130
FedEx		12/12/23	11:30

LR

Comments, Special Requirements or Regulations:

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

* SURCHARGES MAY APPLY

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

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

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

State where samples were collected: VT

Data Format
☐ Excel
☑ PDF
☐ GIS/Key
☑ EQuIS
☐ Other

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

* SURCHARGE APPLIES

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

Form PEL126 Rev. 1/23

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 1.2 C Pg of

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Project: Edgar May
Report to: Dan Voisin
Invoice to: Stone Env.
Quote #

Project P.O: 20-069

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature L. Rapinell Date: 12/8/23

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

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	PCBs 8082 Sox											GL Amber 8 oz. [ ] w/H$_3$PO$_4$ [ ] NAHSO$_4$	Soil VOA Vials [ ] methanol [ ] H$_2$O	GL Soil container (4)oz Hexane	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H$_2$SO$_4$	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H$_2$SO$_4$ [ ] 250ml [ ] 500ml	PL HNO$_3$ 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is	
65160	WP-05-FD	WP	12/8/23	1130		X													X										
65161	WP-11			1216		X													X										
65162	WP-12			1220		X													X										
65163	WP-13			1222		X													X										
65164	WP-07-FD			1155		X													X										
65165	EB-120823			1245		X													X										

Relinquished by:	Accepted by: LR	Date:	Time:
L. Rapinell	FedEX	12/11/23 ~~12/8/23~~	1130
fedex		12/12/23	11:30

Comments, Special Requirements or Regulations:

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

* SURCHARGES MAY APPLY

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

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

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

Data Format
☐ Excel
☒ PDF
☐ GIS/Key
☒ EQuIS
☐ Other

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

* SURCHARGE APPLIES

State where samples were collected: VT

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

Form PEL126 Rev. 1/23

Appendix F: Field Notes

Observation and Remarks

Site Information

Project Name	Edgar May
Project Number	20-069
Project Manager	Dan Voisin
Location	Springfield
Date	12-08-2023

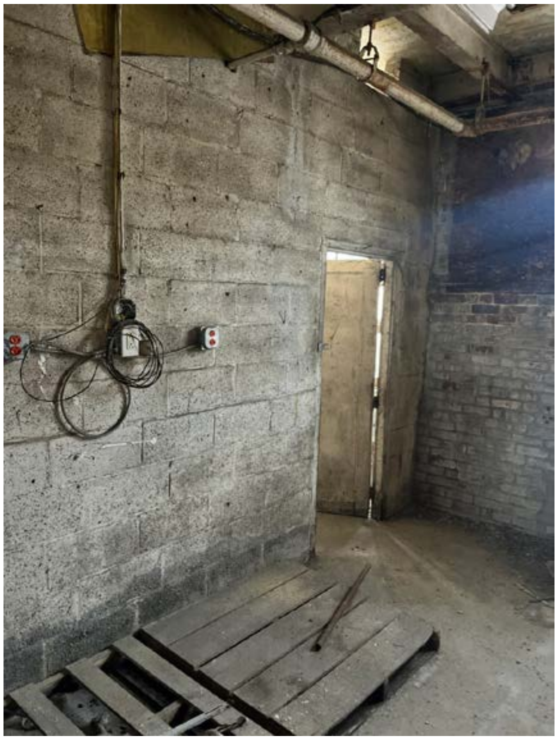
Personnel On Site

Stone Personnel On Site	Julia Marcello, Laura Rajnak
Time On Site	10:32 (-5 GMT)
Time Off Site	12:45 (-5 GMT)

Observation Entry

Weather	30°, sunny
Objectives	Concrete sampling, materials inventory, wipe sampling

Notes & Photo(s)

Time	10:33 (-5 GMT)
Notes	Stone on-site. Received key from front desk of Edgar May pool building. Beginning with concrete sample CN-249. Decon method is the triple rinse method. All water is containerized.
Photo(s)	 

Observation and Remarks

Notes & Photo(s)

Time 10:40 (-5 GMT)

Notes CN-249 collected at 10:40

Photo(s)

Notes & Photo(s)

Time 10:44 (-5 GMT)

Observation and Remarks

Notes	CN-250	
Photo(s)		

Notes & Photo(s)

Time	10:47 (-5 GMT)	
Notes	Onto maintenance office samples.	
Photo(s)		

Observation and Remarks

Notes & Photo(s)

Time	10:54 (-5 GMT)
Notes	CN-251 and CN-251-FD
Photo(s)	

Notes & Photo(s)

Time	10:58 (-5 GMT)

Observation and Remarks

Notes	CN-252
Photo(s)	 

Notes & Photo(s)

Time	11:28 (-5 GMT)
Notes	WP-04 taken from 12th step from bottom
Photo(s)	

Notes & Photo(s)

Observation and Remarks

Time	11:30 (-5 GMT)
Notes	WP-05 and WP-05-FD taken from second step from bottom.
Photo(s)	

Notes & Photo(s)

Time	11:33 (-5 GMT)
Notes	Inventory of the main room: room contains old PVC pool ladders, several wooden pallets, lockers and filing cabinets, used tires, old building materials including drywall boards, wood planks, and metal pipes on pallets and on the floor. One exercise bike, metal scaffolding, several ladders, cardboard boxes, paint cans, assorted old tools, two large gas canisters. Field team estimates materials would fit onto 10 roll offs.

Observation and Remarks

Photo(s)	   

Observation and Remarks

Observation and Remarks

Observation and Remarks

Observation and Remarks

Observation and Remarks

Observation and Remarks

Notes & Photo(s)

Time	11:43 (-5 GMT)
Notes	Inventory of the Annex: old lifeguard chairs, planters, several paint cans, picnic benches, 7 old lockers, pallets, one box of terracotta tiles, filing cabinets, old plastic pool chairs, lawn furniture, exercise equipment, and stored building materials including plastic sheeting, tools, metal pipes, etc.
Photo(s)	 

Observation and Remarks

Observation and Remarks

Observation and Remarks

Observation and Remarks

Notes & Photo(s)

Time 11:56 (-5 GMT)

Notes WP-6 collected from bottom of filing cabinet in the center of the main room.

Photo(s)

Notes & Photo(s)

Time 11:55 (-5 GMT)

Observation and Remarks

Notes	WP-07 and WP-07-FD taken from bottom of filing cabinet near windows in the main room
Photo(s)	 

Notes & Photo(s)

Time	12:02 (-5 GMT)
Notes	WP-08 taken from filing cabinet against the wall of the Annex
Photo(s)	

Notes & Photo(s)

Observation and Remarks

Time	12:09 (-5 GMT)
Notes	WP-09 taken from the bottom of a filing cabinet against the east wall of the main room
Photo(s)	

Notes & Photo(s)

Time	12:13 (-5 GMT)
Notes	WP-10 taken from the bottom of a filing cabinet in the south east corner of the main room

Observation and Remarks

Photo(s)	

Notes & Photo(s)

Time	12:16 (-5 GMT)
Notes	WP-11 taken from a large pvc pipe against the south wall of the main room. Pipe was rotated so that the section laying on the floor could be sampled.
Photo(s)	 

Notes & Photo(s)

Observation and Remarks

Time	12:20 (-5 GMT)
Notes	WP-12 taken from metal picked up from floor in the Annex
Photo(s)	

Notes & Photo(s)

Time	12:22 (-5 GMT)
Notes	WP-13 taken from metal pipe on floor of the Annex against the northern wall. Pipe was rotated so that the section resting on the floor could be sampled

Observation and Remarks

Photo(s)	

Notes & Photo(s)

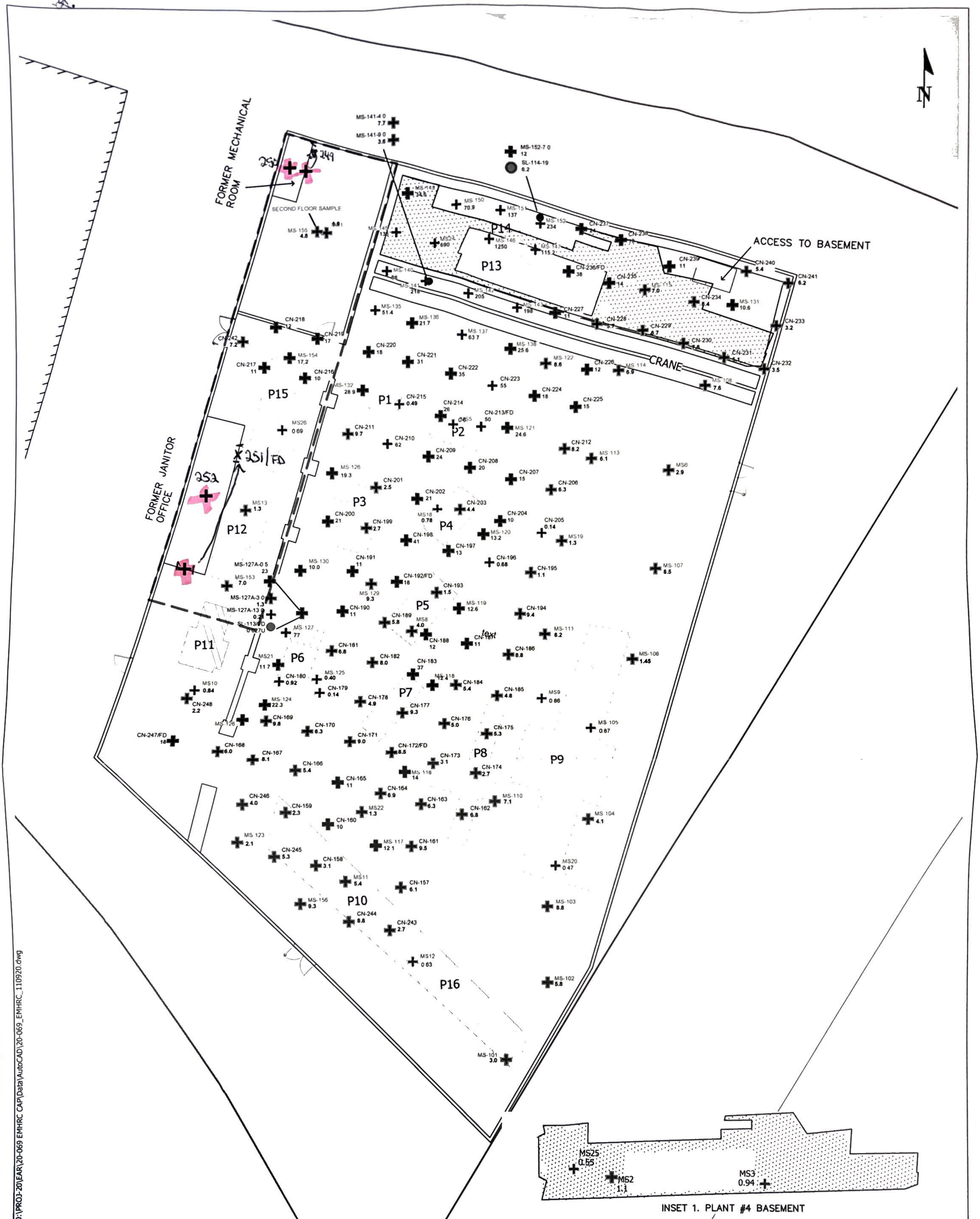
Time	12:40 (-5 GMT)
Notes	All samples collected. Decon water added to existing drum in main room. Garbage containerized and labeled “on hold pending analysis”. Bucket left on top of drum. Door locked and key returned to front desk.
Photo(s)	

Notes & Photo(s)

Time	12:45 (-5 GMT)
Notes	EB-120823 taken from decon-ed drill bit used in concrete sampling.
Photo(s)	

Signature

Signature	
Date	12-08-2023



File: O:\PROJ-20\EAR\20-069 EMHRC CAP\Data\AutoCAD\20-069_EMHRC_110920.dwg

SOURCE: BASE MAP ADOPTED FROM "SOUTHERN VERMONT RECREATION CENTER" DATED 06/25/04, GENERATED BY DUFRESNE-HENRY.

ENFORCEMENT STANDARDS:
TSCA Solid Porous Media High Occupancy Walkaway - 1.0 mg/kg
TSCA Solid Porous Media High Occupancy Cap - Exceedance of 10 mg/kg
VSS - Resident Soil - 0.114 mg/kg
VSS - Non-Resident Soil - 0.68 mg/kg
TSCA Soil Media High Occupancy Walkaway - 1.0 mg/kg

NOTES:
U - Analyte not detected; limit of quantitation listed
Bold - results indicate detections of the analyte
Red - results indicate an exceedence of Solid Porous Media High Occupancy Cap or VSS Non-Resident Soil enforcement standard
Values below sample location ID indicate Total PCBs

Sample IDs in black font from 2020 Site Investigation
Sample IDs in grey font from 2010-2011 Site Investigation

TSCA - Toxic Substance Control Act
VSS - Vermont Soil Standards
mg/kg - milligrams/kilogram

LEGEND

▭ SITE BOUNDARY
PARCEL BOUNDARY
▨ MACHINE BASE
▭ FORMER PLANT #4 BUILDING
ANNEX

CONCRETE RESULTS
+ DETECTION; < 1 mg/Kg
✚ DETECTION; ≥ 1 mg/kg <10 mg/Kg
✚ DETECTION; ≥ 10 mg/kg <50 mg/kg
✚ DETECTION; ≥ 50 mg/kg

SOIL RESULTS
● NON-DETECT
● DETECTION; ≥ 1 mg/kg ≤ 10 mg/kg

✚ PROPOSED CONCRETE SAMPLE LOCATIONS

DRAWING CREDITS
Drawn On: 10/13/2023
Drawn By: SYR
Checked On: 10/13/2023
Checked By: DTV
Project No.: 20-069

DRAWING SCALE
0 20 40
Feet

STONE ENVIRONMENTAL

PROPOSED CONCRETE SAMPLE LOCATIONS & PCB RESULTS
EDGAR MAY HEALTH & RECREATION CENTER
140 CLINTON STREET
SPRINGFIELD VERMONT

FIGURE NO.
4

STONE ENVIRONMENTAL
100% EMPLOYEE-OWNED

Observation and Remarks

Project Information

Project Name	Edgar May
Project Number	19-069
Project Manager	Dan Voisin
Location	Springfield, VT

Site Information

Date	07-25-2024
Stone Personnel On Site	Rudy Bentlage
Time On Site	09:14
Time Off Site	13:30
Weather	Overcast and 80s at 9:50
Objectives	Drain oil from reservoirs on Gantry crane.
Workplan Deviations	N/A
Decontamination Procedures	Alconox scrub, iso, and water rinse. Consumables were thrown in a plastic trash bag and left labeled on-site.

Owner / Sub-Contractor / Visitor

Name/Company	Christian and Keith/edgar may
Time In	09:33
Time Out	10:08
Notes	Met with Christian on-site and Keith let me in the building.

Field Notes

1	**Time**	09:16
	Notes	Met with Christian on-site. Scissor lift has been delivered.
2	**Time**	09:37
	Notes	Met with Keith on-site to review building access. Discussed road crossing safety with the scissor lift.
3	**Time**	09:52
	Notes	Crossed road with scissor lift. Keith watched the road for traffic. Parked scissor lift underneath motor and oil tank assembly.

Photo(s)

4

Time 10:04

Notes Identified drip marks under gantry crane hook.

Photo(s)

5

Time 10:19

Notes Identified areas of leaking on the crane motor system. Two different areas of leaking will locate the tank drains now.

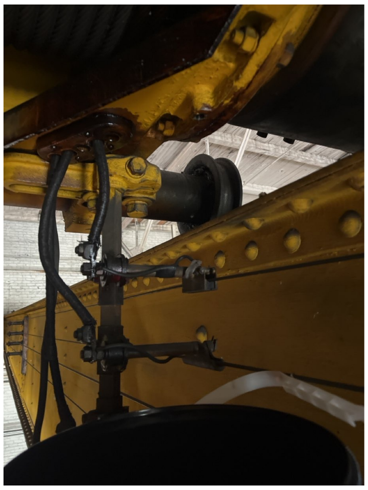
Photo(s)

6

Time 10:39

Notes Took out two oil drain valves. Nothing came out, but obvious drip marks are around them.

Photo(s)

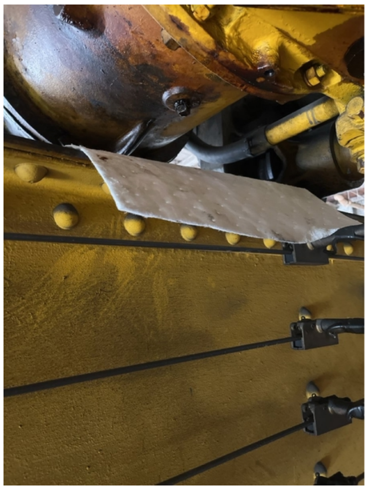


7

Time 10:39

Notes I attempted to unscrew large drain valve on tank could not do it with channel locks going down to truck to get a crescent wrench

Photo(s)



8

Time 11:24

Notes Drained oil from large drain valve approximately 1/8 of a gallon of oil

Photo(s)

9

Time 11:41

Notes Examined north side of Gantry crane motor no oil valve found going to check the south side of the crane now

Photo(s)

10

Time 11:45

Notes Found large oil reservoir on the gearbox for horizontal movement of the crane. RJB will attempt to remove drain plug and drain gearbox.

Photo(s)

11

Time 11:56

Notes What appeared to be an oil reservoir is a reservoir for grease to keep gears lubricated. Upon opening the drain valve it was determined that the grease is too viscous to drip. RJB closed drain valve and wiped down surfaces around the gearbox using isopropyl alcohol and spill pads.

Photo(s)

12

Time 12:05

Notes Found a second tank on southside of gantry crane next to the gearbox. RJB opened plug and no oil came out.

Photo(s)

13

Time 12:18

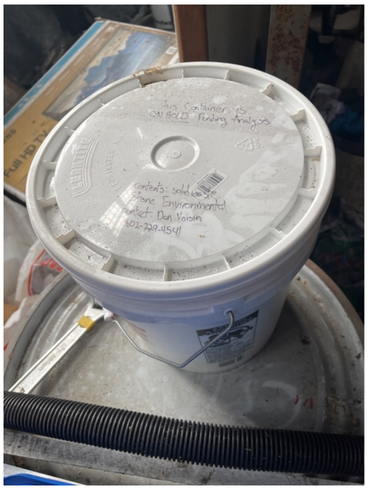
Notes After ensuring all drain plugs were closed and lowering lift, RJB walked around with Keith and determined there are no other tanks to drain.

14

Time 13:19

Notes PCB waste labels.

Photo(s)



15

Time 13:30

Notes Scissor lift was left by the tall, white double doors. United rentals will come tomorrow morning to pick it up.

Photo(s)

Signature