ENVIRONMENTAL HEALTH
& ENGINEERING, INC.

Estabrook Elementary School
Lexington, Massachusetts
Plan for the Removal of Building-related Polychlorinated Biphenyls

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LIST OF ABBREVIATIONS AND ACRONYMS

ACM	asbestos-containing material
Building	Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts
CFR	Code of Federal Regulations
CMR	Code of Massachusetts Regulations
CMU	concrete masonry unit
DiNisco	DiNisco Design Partnership
Estabrook	Estabrook Elementary School
EH&E	Environmental Health & Engineering, Inc.
EPA	U.S. Environmental Protection Agency
HEPA	high efficiency particulate air
ng/m^3	nanogram per cubic meter
OSHA	U.S. Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
ppm	parts per million
QC	quality control
RAM	Release Action Measure
RCRA	Resource Conservation and Recovery Act
Site	117 Grove Street, Lexington, Massachusetts
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
$\mu g/100\ cm^2$	micrograms per 100 square centimeters
$\mu g/m^3$	micrograms per cubic meter
<	less than
>	greater than
§	section

1.0 SUMMARY

Environmental Health & Engineering, Inc. (EH&E) conducted a series of building investigation projects for the Town of Lexington and DiNisco Design Partnership (DiNisco) at Estabrook Elementary School (the Building) in Lexington, Massachusetts (the Site). The Building is owned and operated by the Town of Lexington and is scheduled for complete demolition during the summer of 2014. Results of the investigation and sample analysis indicate the presence of polychlorinated biphenyls (PCBs) in several building materials above the allowable concentration, greater than 50 parts per million (>50 ppm) as specified by the U.S. Environmental Protection Agency (EPA) in the Toxic Substances Control Act (TSCA) regulations. In addition, the survey identified materials containing concentrations of PCBs less than 50 ppm (<50 ppm) that are classified as both PCB bulk product waste and as excluded product as described in further sections of this plan.

In response to the sampling results, DiNisco contracted EH&E to develop and submit an abatement protocol to address the presence of PCB-containing materials. First, this plan address the requirements under §761.61 to perform the removal and disposal of PCB remediation waste generated from the Site. Second, this plan addresses the requirements in accordance with 40 761.62 for the removal and disposal of PCB bulk product waste located at the Building. Third, this plan addresses the presence and proper disposal of excluded PCB materials present in the school. This plan incorporates information provided by EPA in the October 24, 2012, memorandum PCB Bulk Product Waste Reinterpretation.

Three categories of non-liquid PCB waste will be generated during the demolition project including PCB remediation waste, PCB bulk product waste, and excluded PCB materials. These materials, associated with the Building, are required to be addressed during demolition and disposal. PCB remediation waste is identified as the interior carpet as listed in Table 1.1. PCB bulk product waste includes porous brick adjacent to exterior windows, various caulks/sealants, paints, mastics, associated adjacent building materials, and acoustical ceiling Tiles. For disposal purposes material with >50 ppm PCBs are listed in Table 1.2. Additional PCB bulk product waste with <50 ppm PCBs includes porous building materials adjacent to, but not in immediate contact with PCB bulk product source materials, and wall paint as listed in Table 1.3. Excluded PCB materials are those that meet the criteria as defined in 40 CFR 761.3 and are listed in Table 1.4. The requirements for performing the removal and disposal of PCB remediation waste, PCB bulk product waste, and excluded PCB materials are described in the following sections of this report.

1.1 PCB REMEDIATION WASTE

The work will include the removal and disposal of the carpeting present in the School. This carpeting will be disposed of as PCB remediation waste, as the concentrations of PCBs are >1 ppm, and the material does not satisfy the requirements under §761.3 as an exclude PCB product. Therefore, all carpet in the Building will be managed and disposed of as a PCB remediation waste.

All PCB remediation waste, which contains PCBs >1 ppm, generated by this project will be disposed in an appropriate hazardous materials landfill as a PCB remediation waste. The landfill designated for disposal of PCB remediation waste will be selected by the remediation contractor.

Table 1.1 PCB-containing Materials Categorized as PCB Remediation Waste at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Material Description	Location	Approximate Quantity
Carpeting	In limited locations throughout the School	10,000 square feet

PCB polychlorinated biphenyl

1.2 PCB BULK PRODUCT WASTE

The removal and disposal of PCB bulk product waste that includes non-liquid bulk source materials, and adjacent building materials, will be performed under the requirements of 40 CFR 761.62. The work will include the removal and disposal of existing porous brick building material, previously adjacent to PCB caulk removed during the PCB mitigation project during the summer of 2010. Samples were collected to pre-characterize representative materials previously in contact with regulated caulk to determine the amount of material impacted as a result of PCB migration. Characterization of the brick was performed to delineate the boundary of PCB migration in the porous brick, and to demonstrate that brick beyond the delineation contains concentrations of PCBs <1 ppm for unrestricted use. Results of the pre-characterization sampling, presented in Section 6 of this plan, indicate that an appropriate delineation of porous brick containing <1 ppm for unrestricted use is 4” from the edge of the brick previously in contact with the PCB caulk. The PCB concentration in all of the brick and mortar collected at a distance of 4” is less than 1 ppm in all of the sample locations.

Additional PCB containing materials classified for disposal as PCB Bulk Product waste are listed in tables 1.2 and 1.3. Although federal EPA requirements allow for the disposal of PCB bulk product waste in a state-licensed or registered, municipal or non-municipal non-hazardous waste landfill, Massachusetts requires that all materials containing PCBs >50 ppm be classified as a hazardous waste, designated as MA-02, which requires all PCB bulk product waste >50 ppm to be disposed of in an appropriate Resource Conservation and Recovery Act (RCRA) Title C

chemical waste landfill as a TSCA-regulated PCB bulk product waste, which also satisfies the criteria for disposal under section §761.62(a)(2) or (3).

Based on this designation, waste streams will be appropriately demarcated, and segregated to ensure proper disposal. Bulk product waste materials and associated substrate materials >50 ppm PCBs are provided in Table 1.2. Bulk product waste materials and associated substrate materials <50 ppm PCBs are provided in Table 1.3.

All PCB source material, and associated adjacent building material characterized as a bulk product waste with PCBs >50 ppm, will be disposed on in the appropriate landfill selected by the remediation contractor. The removal and disposal of PCB bulk product waste that contains <50 ppm PCBs, which includes non-liquid bulk source materials, and adjacent building materials, will be performed under the requirements of 40 CFR 761.62(b)(1)(i) and will be disposed of in a State licensed or registered, municipal or non-municipal non-hazardous waste landfill. Results of characterization sampling at a distance 4" beyond PCB source materials (>50 ppm) indicates concentrations of PCBs <50 ppm in all samples collected. All materials beyond the 4" delineation boundary are categorized as PCB bulk product waste with <50 ppm PCBs. All PCB building material characterized as a bulk product waste with PCBs <50 ppm are will be disposed on in the appropriate landfill selected by the remediation contractor. Waste streams will be appropriately demarcated and segregated to ensure proper disposal.

Table 1.2 PCB Bulk Product Waste with PCB-containing Materials >50 ppm at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Material Description	Adjacent Substrate	Location	Approximate Quantity
Brick, previously adjacent to exterior PCB frame caulk (removed in 2010)	Exterior façade adjacent to windows	600 linear feet	Brick, previously adjacent to exterior PCB frame caulk (removed in 2010)
Window glazing sealant	Metal window frames, and glass windows	Exterior facing windows (interior and exterior)	6,000 feet
Ceiling tiles	NA	Throughout interior	75,000 square feet
Interior and exterior panel sealant	Asbestos cement panels (transite), and metal frames	Exterior facing windows (interior and exterior)	6,000 feet
Interior expansion joint caulk	Steel expansion joint beam	Interior hallway, near lockers	120 feet
Cove base and cove base mastic	Wall material (CMU, wood paneling)	Interior walls throughout	7,200 feet
Interior frame caulk	Metal window and door frames, CMU walls, and floor tile and mastic	Exterior facing windows and doors	600 feet
Exterior frame caulk	Metal window and door frames, horizontal window soffit, concrete building foundation, interstitial vapor barrier (asphaltic paper)	Exterior facing windows and doors	2,500 feet

Table 1.2 Continued			
Material Description	Adjacent Substrate	Location	Approximate Quantity
Interior paint	Concrete, CMU, metal railings	Fallout shelter	2 flights of stairs (24) + one landing and railings 12 metal door frames 800 square feet concrete wall 175 square feet concrete floor

PCB polychlorinated biphenyl
> greater than
ppm parts per million
NA not applicable
CMU concrete masonry unit

Table 1.3 PCB Bulk Product Waste with PCB-containing Materials <50 ppm at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts			
Material Description	Adjacent Substrate or PCB Source Material	Location	Approximate Quantity
Interior painted CMU block	Concrete/CMU wall material (substrate)	Throughout interior	50,000 square feet
Concrete/CMU wall materials, beyond 4" delineation boundary	Interior window and door frame caulk, cove base/cove base mastic (sources)	Throughout interior	
Wood wall paneling, beyond 4" delineation boundary	Cove base/cove base mastic (source)	Outside kitchen	200 square feet
Exterior wood overhang, perimeter of building	Exterior window frame caulk (source)	Exterior of building	3,600 square feet

PCB polychlorinated biphenyl
< less than
ppm parts per million
CMU concrete masonry unit

1.4 PCB EXCLUDED PRODUCT DISPOSAL

During the testing and evaluation of the presence of PCBs at the school, four materials were sampled and identified to contain concentrations of PCBs <50 ppm. These materials were also evaluated for their determination as an excluded PCB product. The materials listed in Table 1.4 exhibited concentrations below 50 ppm. Therefore, EH&E recommends that these materials be classified as excluded materials and disposed at a properly licensed disposal facility. Details of the evaluation of materials considered to be "excluded product" are provided in Section 3.3.

The presence of "excluded product" was identified in large quantities throughout the school including, flooring mastic, interstitial vapor barriers, acoustical panels, and fiberglass insulation. As a result of the widespread use of excluded product and the adjacent substrate associated with these products, the separation of and segregation of these building materials is infeasible, therefore, the disposal of these building materials, with the exception of PCB bulk product waste

>50 ppm and PCB remediation waste, will be disposed of in a properly licensed off-site disposal facility authorized to accept "excluded product" with PCBs <50 ppm. It is recognized that landfills may require Toxicity Characteristic Leaching Procedure (TCLP) testing for waste characterization purposes prior to disposal. This facility should also be licensed to accept asbestos-containing materials (ACM).

Table 1.4 PCB-containing Materials Categorized as PCB Excluded Product at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Material Description	Approximate Quantity
Acoustical ceiling tile (replacement)	3,000 square feet
Fiberglass insulation	75,000 square feet
Tectum acoustical ceiling panel	75,000 square feet
Floor tile mastic	65,000 square feet
Interstitial Vapor Barrier	7,500 square feet

PCB polychlorinated biphenyl

1.5 ASBESTOS-CONTAINING MATERIALS

During subsequent testing and evaluation of the Building, several asbestos containing materials were identified and were determined to be either PCB containing (i.e., window caulk), or in contact with PCB containing materials (i.e., asbestos cement panels in contact with PCB bulk product caulking. Table 1.5 lists the asbestos-containing materials that either contain or are impacted by PCB materials identified during the building survey (ECMS 2012). Disposal facilities selected by the remediation contractor should have the capability of managing mixed waste materials containing both PCBs and ACM.

Table 1.5 Asbestos-containing Materials at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts*

Material Description	Location	PCB status
Window and door caulk	Interior and exterior	PCB bulk product, contains PCBs >50 ppm
9" x 9" floor tile	Interior, throughout 1960s portion of the building	PCB excluded product, PCB bulk product where in contact with PCB caulk
12" x 12" floor tile	Interior, throughout 1980s portion of the building	Not associated with PCB materials
Mastic associated with 12" x 12" floor tile	Interior, throughout 1960s portion of the building	Associated with excluded product materials
Asbestos cement panel "transite"	Interior and exterior window units	PCB bulk product in contact with PCB caulk

PCB polychlorinated biphenyl
> more than
ppm parts per million

* Environmental & Construction Management Services, Inc., *Investigative Survey Report for Asbestos-containing Materials, Lead-Based Paint, and Polychlorinated Biphenyl's Containing Equipment, May 4, 2012.*

2.0 BUILDING AND CASE HISTORY

EH&E performed an initial investigation in June 2010 to identify suspect PCB-containing caulking and sealants used throughout portions of the School. EH&E collected samples of exterior caulking and inspected the caulking for evidence indicating window caulking replacement or repair work. Five unique types of caulking were identified and sampled. One of the five types of caulking contained PCB concentrations between 6,000 and 21,000 ppm. Photograph 2.1 depicts this caulking material and the typical installation detail between the metal window frame and brick façade. Photograph 2.2 depicts a typical section of the school façade.

Photograph 2.1 Original Window Frame Caulk Installation and Application

Photograph 2.2 Example of Exterior Building Façade and Window Section

In July of 2010 air samples for PCB homolog concentrations were collected in the School. Results indicated indoor air concentrations of total PCBs above the public health levels for annual average concentrations suggested by the EPA. In August of 2010, window glazing and sealants were also sampled to identify other potential sources of PCBs that may be contributing to the measured levels in the indoor air. The glazing and sealant samples contained concentrations of PCBs between 0.89 and 150 ppm.

In response to these findings, EPA was notified and the Town of Lexington conducted cleanup activities that included: removal of 600 linear feet of PCB containing caulking, decontamination of the non-porous metal window frame surface to less than or equal to 10 micrograms per 100 square centimeters ($\mu g/100\ cm^2$), and encapsulation of the porous brick material with a two-part epoxy encapsulant. The remediation process also addressed the non-porous metal window frames by cleaning them to a post-abatement criterion of 10 $\mu g/100\ cm^2$ or less.

Window sealant and glazing compounds on the interior and exterior of the School's windows were encapsulated using a two-part system comprised of bond breaker tape and silicone caulk. The bond breaker tape provided the necessary PCB barrier, and the silicone caulk provided the necessary adhering qualities and weatherization. Representative sections of the encapsulated areas were sampled using surface wipes to ensure the criterion set forth by the EPA of 1 $\mu g/100\ cm^2$ or less was met.

Results of the post remediation wipe samples collected in August of 2010 and issued to EPA in a September 1, 2010, report indicated that representative sections of the encapsulated areas were all less than the criterion set forth by the EPA of 1 $\mu g/100\ cm^2$. After remediation work activities

had been completed and unit ventilators had run overnight for at least 10 hours, an additional round of air sampling was conducted. Results indicated that airborne concentrations still exceed the suggested public health levels provided by the EPA.

Based on these air sampling results, additional actions were implemented to improve indoor air quality in the school including steps to increase the amount of outdoor air ventilation. The testing also indicated that an additional source(s) of PCBs was present in the School and was contributing to the levels of PCBs observed in the indoor air. EH&E conducted further source characterization activities at the School intended to identify materials that were making a substantive contribution to indoor air PCB concentrations. This further source characterization included a detailed inspection of suspect materials such as ceiling tiles, light fixtures, unit ventilator components, glues, mastics, and other interior sealant and adhesive materials and additional sampling of indoor air, surfaces, and/or bulk materials.

The next round of indoor air samples collected on September 6, 2010, indicated that modifications to the existing ventilation systems made to maximize delivery of outdoor air into the building substantially improved the levels PCBs in indoor air. Many rooms were below the public health targets suggested by EPA and the results demonstrated that indoor air levels could be partially managed through ventilation. At this same time, bulk sampling identified a narrow bead of caulk around interior seams of wall panels that were likely to be an important source of indoor PCBs. Ceiling tiles were identified as a secondary source of PCBs during this round of sampling and activities were planned to measure the impact of the ceiling tiles on indoor air PCB concentrations. Further, wipe samples collected from eleven indoor surfaces such as desk tops indicated concentrations all less than 1 $\mu g/100\ cm^2$ suggesting that elevated levels of PCBs in source materials were not adversely impacting surface dust at the School.

Prior to collection of the September 19, 2010, round of air samples, interior beads of PCB-containing caulk located below the ceiling plenum were encapsulated following the methodology accepted by EPA. Comparison of these post encapsulation test results to concentrations measured in the third round of sampling provided information on changes in indoor air levels of PCBs. The results of this round of testing demonstrated continued progress in controlling concentrations of PCBs in indoor air of the School. The concentrations of PCBs in indoor air were below 230 nanograms per cubic meters (ng/m^3) in each room sampled on September 19, 2010. This result held even for the two rooms (13 and 24) in which the unit ventilators were operating with the outdoor air damper in the minimum open position.

Test conditions were then developed to evaluate the impact of the ceiling tiles on the indoor air PCB concentration at the School by isolating the ceiling tiles from the classroom with polyethylene sheeting. Results suggested that the indoor air concentrations when the ceiling tiles were isolated from the classroom were very similar to those observed prior to isolation of the

ceiling tiles. The average PCB homolog air concentration was 155 ng/m^3. In comparison, the average concentration in the same rooms sampled previously was 151 ng/m^3. The results of this testing indicated that any emissions from ceiling tiles was not a substantive contributor to PCB levels in indoor air of these classrooms.

The results from the sixth round of testing collected on September 28 and 29, 2010, in Rooms 2 and 5 were consistent with previous measurements during periods of reduced ventilation. In contrast, the results for Room 1 and Room 6 indicated the influence of factors not directly related to ventilation. The effects of these factors on levels of PCBs in indoor air of the School warranted further investigation.

On October 18 and 19, 2010, two hypotheses were tested on sources and methods of mitigating PCBs remaining in indoor air of the school. The first hypothesis was that the release of PCBs from the curtain walls (window assembly) continued to contribute to PCB levels in indoor air. The second hypothesis was that there was a release of PCBs from within the unit ventilator cabinets contributing to PCB levels in indoor air. The hypotheses testing results indicated that the curtain walls continued to be a source of PCB emissions and that the PCB levels in indoor air could be managed further by sealing penetrations in components of the curtain wall and by minimizing the heating of caulk on the interior of the curtain wall. The test results also indicate that unit ventilators were not an important source of PCB levels observed in indoor air.

Based in part on these results, plans were made for additional near-term mitigation at the school that included sealing specific components of the curtain wall, suspending use of stand-alone steam radiators (i.e., radiators that are not integral to the unit ventilators), and encapsulating transite panels below the window sills of the curtain walls. This was achieved by constructing an enclosure, constructed of gypsum wallboard, in each room to cover and seal the lower panels of the curtain wall thereby separating them from indoor air of the classroom. The enclosure system is depicted in Photograph 2.3. In addition, the I-beams were enclosed and specific areas related to the curtain wall were sealed with new caulk or foam insulation.

Photograph 2.3 Mini-wall Installed in Room 6

The wall enclosure system was completed throughout the school and was evaluated with multiple rounds of air sampling. PCB concentrations measured in indoor air of Estabrook demonstrate the effectiveness of the mitigation methods employed in Estabrook. The actions taken to date have reduced PCB exposures for staff and children to within the guidance values provided by EPA and the site-specific risk assessment.

An Operations and Maintenance Plan was developed to ensure continued mitigation of potential risks associated with PCB in building materials at the School. The plan describes operations and maintenance procedures for the continued management and control of PCBs at the School and incorporates data from multiple rounds of air and surface sampling.

2.1 SOIL REMEDIATION

The Town of Lexington contracted EH&E to develop and submit an abatement protocol to address the presence of non-authorized PCBs in soil at the Site. A work plan was prepared to support an application for a performance-based disposal plan, as outlined at EPA 40 CFR 761.61(a) for disposal of soils impacted by non-liquid PCBs.

In addition, a Release Abatement Measure (RAM) Plan was prepared in accordance with the provisions of the Massachusetts Contingency Plan (MCP) under Title 310 Code of Massachusetts Regulations (CMR) Section 40.0444. This RAM Plan submittal is an integral part of, and is incorporated by reference to, the RAM Transmittal Form (BWSC-106) provided electronically through eDEP.

The work included the removal of the regulated soils associated with previously abated and regulated exterior building caulk. The soil was disposed as PCB bulk remediation waste. The soil abatement was performed to achieve criterion of 1 ppm or less for unrestricted use and disposal

in accordance with EPA regulations. This standard is more protective than the MCP Method 1 Soil Clean-up Standard of 2 ppm.

An historic release of PCBs to soil was discovered subsequent to an assessment of building materials that were found to contain regulated concentrations of PCBs under EPA regulations. Massachusetts Department of Environmental Protection (MADEP) was notified of the release on September 28, 2010, via a Release Notification Form. MADEP issued Release Tracking Number (RTN) 3-29547 for the Site.

Soil abatement was completed by late summer 2011, prior to the start of the fall 2011 school year.

3.0 SAMPLING PROGRAM RESULTS AND CONCLUSIONS

3.1 PCB REMEDIATION WASTE MATERIALS

3.1.1 Carpet

The carpet throughout the Building is considered remediation waste, as the material cannot be designated as a bulk product waste, and also does not meet the definition of an excluded PCB product. All remediation waste will be disposed of in accordance with 40 CFR 761.61(a) in an appropriate landfill selected by the remediation contractor.

Table 3.1 Summary PCB Results of Carpet at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Sample ID	Description	Location	PCB Concentration (ppm)
117626	Carpet	Room 5, carpet	2.3
117627	Carpet	Room 3, carpet	2.13

PCB polychlorinated biphenyl
ppm parts per million

3.2 PCB BULK PRODUCT WASTE

The removal and disposal of PCB bulk product waste that contains >50 ppm PCBs, which includes non-liquid bulk source materials, and adjacent building materials, will be performed under the requirements of 40 CFR 761.62. Although federal EPA requirements allow for the disposal of PCB bulk product waste in a State licensed or registered, municipal or non-municipal non-hazardous waste landfill, Massachusetts requires that all materials containing PCBs >50 ppm be classified as a hazardous waste, designated as MA-02, which requires all PCB bulk product waste >50 ppm to be disposed of in an appropriate RCRA Title C chemical waste landfill as a TSCA-regulated PCB bulk product waste, which also satisfies the criteria for disposal under section §761.62(a)(2) or (3). All PCB source material, and associated adjacent building material characterized as a bulk product waste with PCBs >50 ppm will be disposed of in an appropriate landfill selected by the remediation contractor. Waste streams will be appropriately demarcated, and segregated to ensure proper disposal. Bulk product waste materials are described in the following sections. Locations of PCB containing materials are included in Appendix A.

3.2.1 Caulk and Sealants

The following sections provide results and conclusions for evaluation of window caulk and sealants identified the Estabrook Elementary School. Sample results of the various caulk and sealants at the Building are provided in Table 3.2.

Six homogeneous caulks and sealants were observed at the Estabrook school, although only three types of caulk or sealant appeared to be original to the building, the white and grey caulk associated with the interior and exterior of the building, and the black window glazing sealant, were determined to contain PCBs >50 ppm. The white and grey caulk was observed to be used exclusively and predominantly throughout the building. The black window glazing sealant was also used for all façade windows throughout the school. In all other cases, other types of caulk or sealant were observed and used for repairing old or missing caulk, and in most cases the repair sealants are contiguous with the white and black caulk/sealant.

The segregation of the repair caulk or sealant, and the original caulk, will not be performed during the demolition work, therefore all caulks and sealants at the Estabrook School will be treated as PCB Bulk Product Waste. All non-porous building material, in contact with caulk or sealant, and porous material up to 4" beyond PCB caulk or sealant will also be treated as TSCA-regulated PCB Bulk Product Waste and will be disposed of in a Title C chemical waste landfill, which also satisfies the criteria for disposal under section §761.62(a)(2) or (3). All PCB source material, and associated adjacent building material characterized as a bulk product waste will be disposed of in an appropriate landfill selected by the remediation contractor.

Table 3.2 Summary PCB Results of Exterior and Interior Window Caulk at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Sample ID	Description	Location	PCB Concentration (ppm)
112708	Caulking	Mosaic perimeter caulk, grey	0.183
142218	Caulking	Hallway expansion joint near Room 20	82.4
114985	Caulking	39B, interior caulk joint, adjacent panel to ventilator	750
114994	Caulking	Room 6, interior caulk joint	29,400
115000	Caulking	Hallway, interior caulk adjacent to exit, outside room 19	450
115077	Caulking	Room 6, exterior caulk on green panel	9,700
113832	Caulking	Room 24, interior caulk, window sealant back corner	3,200
113833	Caulking	Room 5, interior caulk, window sealant back corner	2,100
112207	Caulking, exterior	Exterior, grey	7.2
112208	Caulking, exterior	Exterior, grey	9.5
112209	Caulking, exterior	Exterior, white	15,000
112210	Caulking, exterior	Exterior, white	21,000
112211	Caulking, exterior	Exterior, white	16,000
112212	Caulking, exterior	Exterior, white	17,000
112213	Caulking, exterior	Exterior, white	9,900
112214	Caulking, exterior	Exterior, black	4.4
112215	Caulking, exterior	Exterior, clear	7.4
112216	Caulking, exterior	Exterior, grey	0.98
112217	Caulking, exterior	Exterior, brown	0.88
112218	Caulking, exterior	Exterior, white	190
112219	Caulking, exterior	Exterior, white	6,000
112220	Caulking, exterior	Exterior, grey	6.8
112221	Caulking, exterior	Exterior, grey	2.9
112222	Caulking, exterior	Exterior, grey	1.6

PCB polychlorinated biphenyl
ppm parts per million

Sample number 112708, exterior mosaic perimeter caulk was determined to be heterogeneous to all other caulks sampled and investigated at the building. The mosaic caulk was determined to be a non-regulated material containing PCBs <1 ppm.

3.2.2 Window Glazing and Panel Sealant

The following sections provide results and conclusions for evaluation of glazing and panel sealant at the Estabrook Elementary School. The results of the window glazing and panel sealant samples are provided in Table 3.3, and locations are depicted in Figures A.5 – A.10, Appendix A.

Three homogeneous sealants associated with the window glazing and panels (asbestos cement board) are present at the Estabrook School; however, only the black window glazing sealant was determined to contain PCBs >50 ppm. Black window glazing sealant was predominantly used throughout the facility, and although other caulks and sealants were identified, it was observed that these materials were used for repairs. In most cases the repair sealants are used contiguous the black glazing and panel sealant and differentiation and segregation may be difficult. Therefore, all window glazing and panel sealants at the Estabrook School will be treated as PCB Bulk Product Waste. Additionally all porous and non-porous building materials in contact with caulk or sealant will also be treated as PCB Bulk Product Waste and will be disposed of in an appropriate landfill selected by the remediation contractor.

Table 3.3 Summary PCB Results of Window Glazing Sealant at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Sample ID	Description	Location	PCB Concentration (ppm)
113725	Window glazing sealant	Room 6, exterior, gray window gasket	0.89
113726	Window glazing sealant	Room 6, exterior, white window gasket	1.5
113727	Window glazing sealant	Room 6, exterior, white window gasket, adjacent window	2.6
113728	Window glazing sealant	Room 6, interior, black window gasket	150

PCB polychlorinated biphenyl
ppm parts per million

3.2.3 Ceiling Tiles

The following sections provide results and conclusions for evaluation of ceiling tiles identified at Estabrook Elementary School. The results of ceiling tile sampling are provided in Table 3.4, and locations are depicted in Figure A.4, Appendix A.

Three homogeneous types of ceiling tiles were identified at the Estabrook School, and only one type appeared to be original to the building and used predominantly throughout the school. The white coating/paint associated with the original ceiling tile, installed during initial building

construction, was determined to contain PCBs >50 ppm and is also considered a PCB bulk product waste. Two additional types of ceiling tiles were observed throughout the school and appeared to be newer types, used as a replacement for damaged original tiles, and located in approximately 2-5% of the total area where ceiling tiles are used. Although the replacement ceiling tiles were determined to contain PCBs <50 ppm and are determined to be an excluded product (see Section 3.3 for information regarding excluded PCB products), all ceiling tiles located throughout the Estabrook school will be considered PCB bulk product waste to eliminate any potential for mischaracterization during waste segregation at the time of demolition work. Therefore, all ceiling tiles will be disposed of as a hazardous waste in accordance with 761.62(a)(2) or (3) at the appropriate landfill selected by the remediation contractor.

Table 3.4 Summary PCB Results of Ceiling Tile at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Sample ID	Description	Location	PCB Concentration (ppm)
114976	Ceiling tile (original)	39C, old ceiling tile	78
114979	Ceiling tile (original)	Duplicate 114976	122
114987	Ceiling tile (original)	Room 6, white tile, old face/coating	530
114988	Ceiling tile (original)	Room 6, white tile, shiny new face/coating	141
114991	Ceiling tile (original)	Duplicate 114987	970
114977	Ceiling tile (replacement)	39C, shiny new yellow fiberglass back ceiling tile	8.9
114978	Ceiling tile (replacement)	39C, standard new ceiling tile	4.5
114981	Ceiling tile (replacement)	36B, study center library, standard “smooth” new	<2.6
114989	Ceiling tile (replacement)	Room 6, white tile, standard new face/coating	18.3
114990	Ceiling tile (replacement)	Room 6, white tile, smooth new face/coating	14.3

PCB polychlorinated biphenyl
ppm parts per million

3.2.4 Cove Base and Cove Base Mastic

The following sections provide results and conclusions for evaluation of cove base and cove base mastic identified the Estabrook Elementary School. The sample results of the cove base and cove base mastic are provided in Table 3.5 and locations are depicted in Figure A.3, Appendix A.

Two homogeneous cove base and associated mastic materials are present at the Estabrook school, and results indicated that the green cove base applied during original construction contains concentrations of PCBs >50 ppm. The green cove base and associated mastic were installed during the initial period of building construction, and no replacement or repair products were observed; however subsequent additions were constructed during the 1980s, which are not suspect to contain PCBs. During the initial investigation, and as a result of the identification of PCBs >50 ppm in the cove base, a temporary enclosure was constructed over the original material, along the exterior facing walls, The temporary enclosure was constructed using new gypsum wall board, and decorative cove base materials; depicted in Photograph 2.3 of Section 2.

Additionally, at that time, all remaining cove base was covered using a “heavy-duty” tape to serve as an encapsulant over the PCB materials. All non-porous building material, in contact with cove base/cove base mastic, and porous material 4” beyond cove base/cove base mastic will also be treated as TSCA-regulated PCB Bulk Product Waste >50 ppm and will be disposed of in a Title C chemical waste landfill, which also satisfies the criteria for disposal under section §761.62(a)(2) or (3). All PCB source material, and associated adjacent building material characterized as a bulk product waste >50 ppm will be disposed of in an appropriate landfill selected by the remediation contractor. Materials adjacent to PCB source materials beyond the 4” delineation boundary containing <50 ppm PCBs are also categorized as PCB bulk product waste, but will be segregated and disposed of in the appropriate landfill selected by the remediation contractor.

Table 3.5 Summary PCB Results of Cove Base and Associated Cove Base Mastic at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Sample ID	Description	Location	PCB Concentration (ppm)
114982	Cove base	36B, green cove with black mastic	140
114995	Cove base	Room 6, green cove base with mastic	170
114996	Cove base	Room 6, green cove base under windows	160
115076	Cove base	Room 6, green cove base	120

PCB polychlorinated biphenyl
ppm parts per million

3.2.5 Interior Paint

The following sections provide the results of evaluation of paint at the Estabrook School. Sample results of paint analyzed for PCBs are provided in Table 3.6, and locations are illustrated in Figure A.2, Appendix A. Concentrations of PCBs in interior paint on CMU block at the Estabrook School ranged from 3.5 to 103 ppm as provided in Tables 3.6 and 3.9. Seven types of paints were observed throughout the school; however, the yellow wall paint located in the janitor closet, and the pink, green, and teal paint located in the basement boiler room and storage room were determined to contain PCBs greater than 50 ppm. The remaining paints located in various areas of the School were determined to contain PCBs <50 ppm and are categorized as a PCB bulk product waste and excluded product. Paints containing PCBs >50 ppm in the building are located in limited and isolated locations and do not impact other locations where paint is present, therefore the materials containing PCB paints >50 ppm will be segregated and disposed of at the appropriate landfill selected by the remediation contractor. Materials coated with paints containing <50 ppm PCBs will be segregated and disposed of at the appropriate landfill selected by the remediation contractor.

Table 3.6 Summary PCB Results of Paint at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts			
Sample ID	Description	Location	PCB Concentration (ppm)
136825	PCB paint	Basement stairwell to bomb shelter, stair paint, green	103
136826	PCB paint	Duplicate 136825	85.5
136827	PCB paint	Basement bomb shelter, door frame paint, teal	91.8
136828	PCB paint	Basement, boiler room, floor paint, pink	75.1
136835	PCB paint	Closet by room C2, plaster wall paint, yellow	112

PCB polychlorinated biphenyl
ppm parts per million

3.2.6 Exterior Brick

Sample results of the exterior brick characterized as PCB Bulk Product Waste are provided in Table 3.7. Preliminary results of bulk core samples at a distance of approximately one-half inch (1/2") beyond the PCB caulk, previously removed in 2010, indicated concentrations in the brick were <1 ppm. Additional characterization testing, performed prior to demolition of the building to provide more representative sampling, indicate that PCB migration into the exterior brick is minimal and does not extend more than 4". Sampling of building materials was performed as described in Section 6, prior to demolition of the school in order to characterize waste materials for disposal purposes for verifying PCB concentrations prior to remediation activities.

Table 3.7 Summary PCB Results of Exterior Brick at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts			
Sample ID	Description	Location	PCB Concentration (ppm)
113729	Brick	Room 6, exterior, brick, end of windows right edge 1/4"	0.53
113730	Brick	Room 6, exterior, brick, end of windows, right edge 1/2"	0.08
113731	Brick	Location 4, exterior, brick, edge to 1/4"	4
113732	Brick	Location 4, exterior, brick, 1/2"	0.13
113733	Brick	Duplicate 112732	0.2

PCB polychlorinated biphenyl
ppm parts per million

3.2.7 Other Materials Considered PCB Bulk Product Waste

During the investigation EH&E sampled two materials, floor tile mastic and interstitial wall vapor barrier paper, immediately adjacent to PCB source caulk. According the EPA's reinterpretation, of PCB bulk product materials, the materials adjacent to source material are also considered PCB bulk product waste. Although the floor tile mastic and wall vapor barrier paper indicated results >50 ppm, the results of additional testing in areas where PCB caulk or sealant is not present indicated levels <50 ppm.

Table 3.8 Summary PCB Results of Materials Adjacent to PCB Bulk Product Waste at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts			
Sample ID	Description	Location	PCB Concentration (ppm)
115003	Tar paper vapor barrier in contact with PCB caulk	Exterior tar paper membrane, outside room 6	300
115075	Floor tile mastic, in contact with PCB caulk	Room 6, black mastic	280

PCB polychlorinated biphenyl
ppm parts per million

3.3 EXCLUDED PCB PRODUCT

During the sampling and investigation for the presence of PCB-containing materials at the Estabrook School, results indicated materials to contain >50 ppm PCB (as indicated in Section 3.2); however, results also indicated that other materials were present throughout the School that exhibited concentrations of PCBs between 1 and 29 ppm PCBs. The materials listed in Table 3.9 exhibited concentrations <50 ppm; therefore, EH&E recommends that these materials be classified as excluded materials and disposed at a properly licensed off-site disposal facility. Details of the evaluation of materials considered to be "excluded product" are presented as follows.

Table 3.9 Summary of Materials Containing PCBs Less Than 50 ppm (Excluded Product), 117 Grove Street, Lexington, Massachusetts			
Sample ID	Description	Location	PCB Concentration (ppm)
142113	Floor tile mastic	Classroom 31B, dark brown floor tiles	13
142114	Floor tile mastic	Hallway by conference room, light brown floor tiles	12.4
142115	Floor tile mastic	Gymnasium storage room, dark brown floor tiles	5.8
142116	Floor tile mastic	Duplicate 142115	4.84
142117	Floor tile mastic	Art classroom storage closet, dark brown floor tiles	10.3
114980	Insulation	39C, fiberglass insulation	<4.3
114993	Insulation	Room 6, insulation paper with clear adhesive	6.1
113844	Insulation	Room 1, fiberglass insulation	4
113845	Insulation	Room 2, fiberglass insulation	3.5
113846	Insulation	Room 3, fiberglass insulation	16
113847	Insulation	Room 4, fiberglass insulation	21
113848	Insulation	Room 5, fiberglass insulation	8.8
113849	Insulation	Room 6, fiberglass insulation	4.1
113850	Insulation	Duplicate 113849	4.7
113851	Insulation	Hallway, fiberglass insulation	5.1
114999	Mastic	Hallway, black mastic under tile floor, outside room 19	13
136829	Paint	Basement bomb shelter, masonry wall paint, off-white	3.52
136830	Paint	Duplicate 136829	3.58
136831	Paint	Basement bomb shelter, floor paint, grey	3.81
136932	Paint	Janitor closet by room 5A, masonry wall paint, teal	6.79
136833	Paint	Art room supply closet, duct paint, white	29.5
136836	Paint	Classroom 31B, masonry wall paint, yellow	14.2
136837	Paint	Gym storage room, masonry wall paint, white	6.28

Table 3.9 Continued			
Sample ID	Description	Location	PCB Concentration (ppm)
115001	Tar Paper	Exterior, tar paper membrane, outside room 19 exit	2.8
115002	Tar Paper	Duplicate 15001	4.7
115004	Tar Paper	Room 39C, black adhesive in plenum	3.8
115037	Tar Paper	Room 19, exterior corner, black paper under brick with black tar backing	3.9
115038	Tar Paper	Duplicate 115037	3.3
115039	Tar Paper	Room 19, exterior corner, black paper under brick with black tar backing	1.1

PCB polychlorinated biphenyl
ppm parts per million
< less than

The floor tile mastic, insulation, and tar paper throughout the building and identified in Table 3.9, with exception to those materials that are considered PCB bulk product waste, exhibited concentrations <50 ppm. Therefore, EH&E recommends that these materials be classified as excluded materials, in addition to those containing asbestos, will be disposed at a properly licensed off-site disposal facility as an excluded product.

The definition in 40 CFR 761.3 does not contain an exclusive list of materials that would be considered an "excluded product"; rather it gives examples of "excluded products." An excluded product determination is made by satisfying three criteria:

1) the PCBs exist at levels <50 ppm
2) the product was legally manufactured, processed, distributed in commerce or used before October 1, 1984
3) the resulting PCB concentration is not the result of dilution, or leaks and spills of PCBs in concentrations >50 ppm

During the building survey, EH&E performed a thorough investigation to identify suspect PCB-containing caulking, sealants and other suspect PCB containing materials used throughout the Building. EH&E collected samples in a manner to investigate the installation and application of these materials, including an evaluation of any evidence indicating replacement or repair work. As indicated in Table 3.9, various materials were evaluated to determine if they met the definition of an "excluded product" based on the criteria in 40 CFR 761.3. As noted above, these materials contained levels of PCBs well below 50 ppm. This satisfies the first criterion of an excluded product as specified in 40 CFR 761.3.

EH&E surveyed the Building, and reviewed building information and spoke with knowledgeable personnel regarding the maintenance and construction of the Building to determine if these materials met the second criteria, *legally manufactured, processed, distributed in commerce or*

used before October 1, 1984. Based on the early 1960s construction date of the building, the products containing PCBs <50 ppm appear to be installed during the initial construction period of the Building.

Based on these observations and findings, Lexington is classifying the <50 ppm materials as an Excluded PCB Product as it meets all three criteria as specified in 40 CFR 761.3. As a result of the widespread use of excluded product and the adjacent substrate associated with these products, the separation of and segregation of these building materials is infeasible, therefore, the disposal of these building materials, with the exception of PCB bulk product waste and PCB remediation waste, will be disposed of in a properly licensed off-site disposal facility authorized to accept "excluded product" with PCBs <50 ppm. It is recognized that landfills may require Toxicity Characteristic Leaching Procedure (TCLP) testing for waste characterization purposes prior to disposal.

3.4 OVERVIEW OF ABATEMENT GOALS

At a minimum, the abatement activities will involve the removal and proper disposal of specified PCB-containing materials. The abatement project will be performed in compliance with the EPA TSCA requirements and protect public health and the environment. Materials that are classified as PCB remediation or bulk product waste will be disposed in compliance with federal and state regulatory requirements. Where required, materials will be characterized (e.g., TCLP) prior to disposal in accordance with landfill requirements. Any waste that is above the TCLP criteria for a non-hazardous waste will be disposed of in a Title C hazardous waste landfill.

4.0 REGULATIONS, PERMITS, AND QUALIFICATIONS

The contractor hired to perform the abatement of the PCB-containing materials at Estabrook Elementary School shall be responsible for obtaining all permits necessary to execute work conducted. The cost for securing all necessary permits shall be included in the contractor's submittal. The contractor shall be responsible for adhering to all applicable federal, state, and local rules and regulations including, but not limited to, those from the EPA, the Massachusetts Department of Environmental Protection, the U.S. Occupational Safety and Health Administration (OSHA).

The contractor shall conform to all stipulations and permits identified in the contract bid documents, including any conditions set forth in the EPA approval. Where a conflict arises between regulations, the contractor shall adhere to the most stringent regulation. The contractor shall also confer with the project engineer to resolve any conflict between the project plans and the abatement procedures.

4.1 FIRE SAFETY AND EMERGENCY ACTION PLANS

The contractor will prepare emergency action and fire prevention plans that are fully compliant with all applicable regulations prior to the commencement of abatement activities. For abatement projects, the plans must include:

- Emergency escape procedures and routes.
- The procedure for announcing emergencies.
- The procedures to account for all employees after evacuation.
- The rescue and medical duties of personnel.
- A list of all major workplace fire hazards.
- The names and/or job titles of people responsible for the maintenance of the fire prevention equipment.
- The name of the person in charge of any fuel on the job.
- The names and/or job titles of people to be contacted for information about the job.
- Hot work permit procedures, if necessary.

4.2 STANDARD OPERATING PROCEDURES

The project requires that the contractor prepare a written work plan and health and safety plan for abatement work performed at the School. The two plans must ensure maximum protection of workers, visitors, and employees from PCB exposure and must prevent the release of PCBs or PCB-laden dust into the environment. These procedures should include, but are not limited to the following:

- Engineering controls and work practices to minimize airborne contamination into the work area and to prevent the spread of such contamination outside the work area. These controls and practices instituted during abatement activities must keep workers' exposures to PCBs below the permissible exposure limit and ensure no release of PCBs from the work area.
- Specifications regarding containment processes to prevent the release of abatement debris from the work area.
- Directions regarding pre-cleaning of the work area with a high efficiency particulate air (HEPA)-filtered vacuum.
- Specifications for sufficient and proper protective clothing and respiratory protection equipment for entrance into the work space from the outside, as may be required by OSHA regulations.
- Specifications for safe work practices in the workplace and exclusion of eating, drinking, smoking, or in any way breaking the respiratory protection, if respirators are required.
- Removal methods that minimize the amount of airborne dust generated from abatement activities.
- Specifications regarding end of work shift cleaning procedures.
- Specifications regarding the handling, storage, transport, and disposal of all appropriately classified PCB waste in a manner that minimizes exposure and that complies with federal, state, and local regulations regarding PCBs.
- Specifications identifying disposal sites for PCB waste.
- Specifications regarding possible contingency plans pertaining to accidental spills and/or contamination in the work area or outside the work area.
- Mandatory and proper use of decontamination facilities when exiting the work area.
- Directions regarding the cleaning of work areas following abatement procedures.
- Supervision of work by a competent person.

In addition, the submitted work plan should provide sufficient detail to describe specific plans and actions. Moreover, where applicable, the work plan may reference this document, but will still need to be of sufficient detail in its descriptions.

4.3 TRAINING AND CERTIFICATION

All personnel performing abatement activities must have all the required training, medical examinations, and respirator fit testing (if required) as specified by OSHA. The contractor must at all times have a competent manager at the job site. Site-specific hazards and hazards

associated with the handling and disposal of PCB products must be effectively communicated to the contractor's staff to minimize potential exposures. Completion of a Hazard Communication program in conformance with the elements of OSHA 29 CFR 1926.59 is required. In addition, the contractor must provide proper training and equipment for all safety-related issues.

4.4 CONTRACTOR QUALIFICATIONS

The contractor shall demonstrate the following minimum requirements and competencies in accordance with the requirements specified by Lexington.

- Experience in demolition and decontamination of large, PCB-contaminated non-industrial facilities will be preferential, but not a necessary requirement.
- Experience in the abatement and disposal of ACMs.
- Maintain and operate a fully functioning health and safety program dealing with the cleanup of hazardous materials and substances.
- Maintain sufficient equipment, materials, and staff to complete the scope of work as outlined in this specification. A complete list of permanent staff, equipment, and materials shall be provided in the bid submission.
- Knowledge of the federal TSCA regulations.

5.0 SCOPE AND SCHEDULE

5.1 SCOPE

5.1.1 Removal of PCB Remediation Waste

The scope of work for the abatement project addresses PCB remediation waste, PCB bulk product waste, and excluded product containing PCBs. Table 5.1 summarizes materials categorized as PCB remediation waste scheduled for removal in accordance with this plan. The appropriate landfill to dispose of PCB remediation waste will be selected by the remediation contractor.

Table 5.1 PCB Remediation Waste at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Material Description	Removal Boundary	Approximate Quantity
Carpeting	All carpeting	10,000 square feet

PCB polychlorinated biphenyl

5.1.2 Removal of PCB Bulk Product Waste

Existing brick previously adjacent to PCB caulk (removed in 2010) exists throughout the exterior façade. In 2010, only the caulk associated with the vertical joint between the window frame and brick was removed. Additionally, the caulk was removed from the brick to a level of no visible material. Post abatement verification sampling was not performed; however limited testing of brick in 2010 indicated that PCBs associated with the caulk did not migrate through the brick beyond one-half of an inch away from the caulk joint. Test results of brick sampling are provided in Table 5.2. Following the removal, an epoxy coating encapsulant was applied to the brick surface adjacent to previously existing caulk 4” beyond the caulk joint.

Table 5.2 Bulk Brick Sampling August 10, 2010, Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Sample ID	Material Description	Location	PCB Concentration (ppm)
113729	Brick	Room 6, exterior, brick, end of windows right edge 1/4”	0.53
113730	Brick	Room 6, exterior, brick, end of windows, right edge 1/2”	0.08
113731	Brick	Location 4, exterior, brick, edge to 1/4”	4
113732	Brick	Location 4, exterior, brick, 1/2”	0.13

PCB polychlorinated biphenyl
ppm parts per million

The remaining encapsulated brick is scheduled for removal as part of this plan. Bulk samples of brick material were collected, to confirm the remediation boundary for PCB remediation waste

segregation to delineate remediation waste materials from materials containing <1 ppm PCB for unrestricted use. Preliminary test results indicate that PCB migration has not occurred beyond 1/2" of brick material. Additional testing confirmed a removal boundary 4" beyond the vertical caulk joint as presented in section 6. Although the pre-characterization does not specifically meet the frequency of testing requirements of Subpart O for performing post abatement verification sampling, all sampling to date has conclusively indicated that brick materials at 1/2-inch (2 samples), and more conservatively at 4 inches (7samples), beyond the PCB caulk contain concentrations of PCBs well below 1 ppm. Therefore, it is not anticipated that additional verification testing will be needed to demonstrate completion of abatement activity following the removal of brick 4" beyond the caulk joint.

The removal of PCB bulk product waste will be performed in accordance with this plan, and will be disposed of in accordance with 40 CFR 761.62. PCB source materials include brick, caulks, sealants, paints, mastics, and adjacent materials. Table 5.3 summarizes materials categorized as PCB bulk product waste with PCB concentrations scheduled for removal in accordance with this plan.

Table 5.3 PCB Bulk Product Waste Scheduled for Removal at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

PCB Source Material	Adjacent Substrate (removal boundary)	Approximate Quantity	Photograph*
Exterior Brick	Previously adjacent to exterior PCB frame caulk (removed in 2010) 4" beyond caulk joint.	600 feet	C.17
Window glazing sealant, interior and exterior	Metal window frames, glass window panel, asbestos cement panel (entire window component)	30 window units	C.1, C.2
Ceiling tiles, interior	NA	75,000 square feet	C.3
Interior beam caulk	Steel support beam (entire component) CMU (4" beyond caulk joint)	250 feet	C.4
Cove base and cove base mastic	CMU (4" beyond cove base materials) Wood paneling, gymnasium (4" beyond cove base)	7,200 feet	C.5, C.6, C.7
Interior and exterior window and door frame caulk and sealant	Metal window frames (panel and glazing) Metal door frames (door frame component) Brick, associated with door frame caulk (4" beyond caulk joint) Vertical: interior CMU (4" beyond caulk joint) Horizontal bottom, exterior concrete foundation (4" beyond caulk joint) Horizontal top, exterior wood overhang (4" beyond caulk joint) Interstitial wall vapor barrier, asphaltic paper (4" beyond caulk joint) Floor tile and associated mastic (1 tile, 9"x 9") beyond caulk	800 linear feet	C.8, C.9, C.10, C.11, C.12, C.13
Interior paint	Stairway unit (two flights including metal railings and landings) Concrete walls (in janitor closet) Concrete floor (foundation-landing to basement) Interior door frames (entire unit)	2 flights of stairs (24) + one landing and railings 12 metal door frames 800 SF concrete wall 175 SF concrete floor	C.14, C.15, C.16

Table 5.3 Continued

PCB polychlorinated biphenyl
ppm parts per million
CMU concrete masonry unit
NA not applicable
SF square feet

* Photographs provided in Appendix C.

Prior to removal of PCB bulk product waste, all areas associated with the source caulk and adjacent materials will be clearly demarcated or marked (i.e., using high visibility spray paint) for waste segregation prior to demolition, as phasing of the work may require partial demolition of building components until PCB bulk product waste materials are accessible (e.g., bottom areas of CMU walls, and building foundation materials). All PCB bulk product waste shall be properly segregated from PCB remediation waste, excluded PCB materials, and remaining demolition waste during all phases of demolition activity. All PCB bulk product waste >50 ppm is scheduled for disposal in a Title C hazardous waste landfill facility under the Massachusetts designation MA-02 as a hazardous waste containing >50 ppm PCBs. The appropriate landfill to dispose of PCB bulk product waste will be selected by the remediation contractor.

This plan provides a delineation boundary 4” beyond the PCB source material to for PCB bulk product waste characterization. Representative bulk samples were collected of adjacent building materials to confirm and delineate the PCB bulk product waste >50 ppm from PCB bulk product waste < 50 ppm. Results are presented in section 6 of this plan. All adjacent building material beyond the 4” remediation boundary that will be disposed of as PCB bulk product waste with PCB concentrations <50 ppm are provided in Table 5.4.

Table 5.4 PCB-containing Materials Categorized as PCB Bulk Product Waste <50 ppm at Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Material Description	Adjacent Substrate or PCB Source Material	Location	Approximate Quantity
Interior Painted CMU Block	Concrete/CMU wall material (substrate)	Throughout interior	50,000 square feet
Concrete/CMU wall materials, beyond 4” delineation boundary	Interior window and door frame caulk, cove base/cove base mastic (sources)	Throughout interior	
Wood wall paneling, beyond 4” delineation boundary	Cove base/cove base mastic (source)	Outside kitchen	200 square feet
Exterior wood overhang, perimeter of building	Exterior window frame caulk (source)	Exterior of building	3,600 square feet

PCB polychlorinated biphenyl
ppm parts per million
CMU concrete masonry unit

5.2 WORK SEQUENCE

The abatement contractor shall provide, prior to performing removal of PCB materials, or demolition of the building a sequence for work activity. The sequence shall specifically list the materials in the building, in order or anticipated removal. At a minimum the sequence shall include the following:

- Site isolation and protection.
- Interior hazardous materials abatement (non-PCB)
- Removal of exterior PCB materials
- Removal of interior PCB materials
- Building demolition

The abatement contractor shall supply all labor, materials, and equipment necessary to carry out the scope of work detailed in this document in a professional, workman-like manner. Final acceptance of the work is predicated on obtaining successful inspection results (see Section 12) and completing site close out activities (see Section 13). In addition, the abatement contractor shall be required to submit for review and approval a work plan to Lexington and EH&E detailing the planned abatement activities. The plan should include, at a minimum, a description of the removal activities, engineering controls, decontamination activities, and reporting.

5.3 SCHEDULE

All work shall be performed within the Lexington allocated time period for remediation activities. The abatement contractor shall closely coordinate his/her schedule with other contractors' schedules to expedite the work, as necessary.

The abatement and removal work is anticipated to take place during daytime hours beginning in the summer of 2014. The abatement contractor will have to confirm the project schedule in writing during the first week of the work. Final approval of the schedule will be at the discretion of the owner and the revised schedule must address coordination issues with other contractors.

6.0 PRE-CHARACTERIZATION TESTING

EH&E conducted sampling and analysis at the Estabrook School to further evaluate the nature and extent of PCB-containing materials identified at the Site, to define homogenous materials and applications, and to pre-characterize impacted materials for removal and disposal. Sampling included adjacent porous materials at the School to determine removal boundaries to determine how building materials will be segregated for disposal. All samples were extracted/analyzed in accord with EPA Methods 3540C/8082. Table 6.1 lists sampling frequencies by media.

Table 6.1 Additional Pre-characterization Sampling Plan, Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts

Material To Be Tested	Total Approximate Number of Units	Number of Bulk Samples	Approximate Sampling Frequency
Exterior brick	600 linear feet	7 samples	1 sample per 3 window/door units
Exterior concrete foundation	1200 linear feet	10 samples	1 sample per 3 window/door units
Exterior wood overhang, perimeter of building	1200 linear feet	7 samples	1 sample per 3 window/door units
Interior CMU, adjacent to caulk	600 linear feet	11 samples	1 sample per 3 window/door units
Interior CMU, adjacent to cove base materials	7,200 linear feet	12 samples	1 sample per 2 classroom locations
Floor tile and associated mastic, adjacent to door frame caulk	14 locations	4 samples	Minimum sampling frequency 3
Wood wall panels, adjacent to cove base materials	150 linear feet	3 samples	Minimum sampling frequency 3

The number of samples collected is listed in Table 6.1. In the Building, there are approximately 26 total window and door units with regulated concentrations of PCB caulking, 7200 linear feet of cove base throughout approximately 30 classrooms. It is presumed that approximately 600 linear feet of brick at 26 window and/or door locations are present and adjacent to PCB caulk.

Bulk samples of porous material from each sampled window opening were composed of composite samples. Each composite sample was composed of a minimum of three representative discrete samples. Bulk samples of the brick were composed of a composite sample of three samples collected from adjacent bricks on both sides of the window unit. The composite porous samples collected were limited to a one-half inch (1/2”) depth.

While this testing does not specifically meet the requirements of Subpart N as required under 40 CFR 761.61(a), it does provide representative sampling and in accordance with §761.61(c)(2) and will not pose an unreasonable risk of injury to health or the environment because it provides an equivalent level of confidence in determining PCB concentrations. This material is not proposed for beneficial or other reuse, and testing is only intended to ensure proper disposal at an off-site waste facility, which is more typically regulated under Subpart R. The sampling plan exceeds the sampling frequency of Subpart R and because, in general, the source materials and not the aggregate waste are being evaluated, it is significantly more conservative than Subpart R.

Additionally, unlike soil or other porous substrates that might be characterized under Subpart N, the paint and caulk have more homogeneous characteristics and PCB concentrations. Therefore, this sampling scheme sufficiently characterizes the caulk-impacted building materials and concrete for determination of disposal options. Further, the configuration of materials sampled under this plan, both paint and caulk related, make the implementation of Subpart N impractical.

Results of the sampling are presented in the following Tables 6.2 – 6.8.

Table 6.2 Bulk Sample Results for PCBs from Exterior Brick and Mortar 4" from Source Material, Estabrook Elementary, Lexington, Massachusetts, May 13 and 16, 2013

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Aroclor 1254[1,2] (ppm_w)	Aroclor 1260[1,2] (ppm_w)	Total (ppm_w)
145169	Outside of Room 6, Left	ND	ND	ND	ND <1
145170	Outside of Room 6, Right	ND	ND	ND	ND <1
145174	Outside of Room 1, East, Right	ND	ND	ND	ND <1
145185	Outside of Room 39C, North	ND	ND	ND	ND <1
145186	Outside of Room 39C, North (duplicate)	ND	ND	ND	ND <1
145187	Outside of Gym	ND	ND	ND	ND <1
145189	Outside of Media Center	ND	ND	ND	ND <1

PCB polychlorinated biphenyl
ppm_w parts per million by weight
ND none detected
< less than

1 PCB concentration analysis performed by Alpha Analytical, Inc., using U.S. Environmental Protection Agency Method 3540C.
2 Aroclor 1016, 1221, 1232, 1242, 1262, and 1268 also tested. All results below reporting levels, unless noted.

Table 6.3 Bulk Sample Results for PCBs from Exterior Concrete Foundation 4" from Source Material, Estabrook Elementary, Lexington, Massachusetts, May 13 and 16, 2013

Sample ID	Description	Aroclor 1242[1,2] (ppm_w)	Aroclor 1254[1,2] (ppm_w)	Aroclor 1260[1,2] (ppm_w)	Total (ppm_w)
145166	Outside of Room 21B	ND	ND	ND	ND <1
145167	Outside of Room 19	ND	ND	ND	ND <1
145168	Outside of Room 19 (duplicate)	ND	ND	ND	ND <1
145171	Outside of Room 2, West	ND	ND	ND	ND <1
145172	Outside of Room 2, South	ND	ND	ND	ND <1
145173	Outside of Room 1, East	ND	ND	ND	ND <1
145182	Outside of Room 20	0.128	ND	ND	0.128 (<1)
145183	Outside of Room 31B	0.118	ND	ND	0.118 (<1)
145184	Outside of Room 39C, North	0.0765	ND	ND	0.0765 (<1)
145188	Outside of Gym	0.114	ND	ND	0.114 (<1)

PCB polychlorinated biphenyl
ppm_w parts per million by weight
ND none detected
< less than

1 PCB concentration analysis performed by Alpha Analytical, Inc., using U.S. Environmental Protection Agency Method 3540C.
2 Aroclor 1016, 1221, 1232, 1248, 1262, and 1268 also tested. All results below reporting levels, unless noted.

Table 6.4 Bulk Sample Results for PCBs from Exterior Wood Overhang 4" from Source Material, Estabrook Elementary, Lexington, Massachusetts, May 15, 2013

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Aroclor 1254[1,2] (ppm_w)	Aroclor 1260[1,2] (ppm_w)	Total (ppm_w)
145175	Outside of Room 39C, North	3.49	1.90	ND	5.39
145176	Outside of Exterior Room 26	ND	0.305	0.0369	0.342 (<1)
145177	Outside of Exterior Room 26 (duplicate)	ND	0.181	ND	0.181 (<1)
145178	Outside of Room 20	1.17	1.16	0.140	2.47
145179	Outside of Room 6	2.75	1.59	ND	4.34
145180	Main Entrance Façade, Right	ND	6.30	ND	6.30
145181	Outside of Room 5	2.67	1.69	ND	4.36

PCB polychlorinated biphenyl
ppm_w parts per million by weight
ND none detected
< less than

1 PCB concentration analysis performed by Alpha Analytical, Inc., using U.S. Environmental Protection Agency Method 3540C.
2 Aroclor 1016, 1221, 1232, 1242, 1262, and 1268 also tested. All results below reporting levels, unless noted.

Table 6.5 Bulk Sample Results for PCBs from Interior CMU Adjacent to Caulk 4" from Source Material, Estabrook Elementary, Lexington, Massachusetts, May 11, 2013

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Aroclor 1254[1,2] (ppm_w)	Aroclor 1260[1,2] (ppm_w)	Total (ppm_w)
145140	Room 19, Back Left Corner	ND	18.2	ND	18.2
145141	Room 19, Back Left Corner (duplicate)	ND	14.9	ND	14.9
145142	Room 11, Back Right Corner	ND	9.68	ND	9.68
145146	Room 1, Back Right Wall	ND	9.80	ND	9.80
145149	Room 2, Back Left Wall	ND	14.0	ND	14.0
145151	Room 2, Back Right Wall	ND	16.7	ND	16.7
145153	Room 22, Back Left Wall	ND	12.5	ND	12.5
145155	Room 23, Back Right Wall	ND	10.5	ND	10.5
145157	Room 24, Back Left Wall	ND	13.0	ND	13.0
145160	Room 31A, Back Left Wall	ND	9.69	ND	9.69
145162	Room 39C, Front Right Wall	ND	14.4	ND	14.4

PCB polychlorinated biphenyl
CMU concrete masonry unit
ppm_w parts per million by weight
ND none detected

1 PCB concentration analysis performed by Alpha Analytical, Inc., using U.S. Environmental Protection Agency Method 3540C.
2 Aroclor 1016, 1221, 1232, 1242, 1262, and 1268 also tested. All results below reporting levels, unless noted.

Table 6.6 Bulk Sample Results for PCBs from Interior CMU Adjacent to Cove Base 4" from Source Material, Estabrook Elementary, Lexington, Massachusetts, May 11, 2013

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Aroclor 1254[1,2] (ppm_w)	Aroclor 1260[1,2] (ppm_w)	Total (ppm_w)
145143	Room 11, Front by Left Door	ND	6.63	ND	6.63
145144	Room 19, Right Wall adjacent to Room 13	ND	8.40	ND	8.40
145145	Room 1, Back Right Wall	ND	9.59	ND	9.59
145147	Room 2, Back Left Wall	ND	8.02	ND	8.02
145148	Room 2, Back Left Wall (Duplicate)	ND	14.8	ND	14.8
145150	Room 2, Back Right Wall	ND	15.7	ND	15.7
145152	Room 22, Back Left Wall	ND	20.6	ND	20.6
145154	Room 23, Back Right Wall	ND	12.6	ND	12.6
145156	Room 24, Back Left Wall	ND	15.0	ND	15.0
145158	Room 31A, Back Left Wall	ND	12.6	ND	12.6
145159	Room 31A, Back Left Wall (Duplicate)	ND	10.9	ND	10.9
145161	Room 39C, Front Right Wall	ND	13.9	ND	13.9

PCB polychlorinated biphenyl
CMU concrete masonry unit
ppm_w parts per million by weight
ND none detected

1 PCB concentration analysis performed by Alpha Analytical, Inc., using U.S. Environmental Protection Agency Method 3540C.
2 Aroclor 1016, 1221, 1232, 1242, 1262, and 1268 also tested. All results below reporting levels, unless noted.

Table 6.7 Bulk Sample Results for PCBs from Concrete Foundation Under Floor Tile and Associated Mastic adjacent to Door Frame Caulk 4" from Source Material Estabrook Elementary, Lexington, Massachusetts, May 11, 2013

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Aroclor 1254[1,2] (ppm_w)	Aroclor 1260[1,2] (ppm_w)	Total (ppm_w)
145136	Building Exit Outside of Room 39C, Right	ND	ND	ND	ND <1
145137	Building Exit Outside of Room 39C, Left	ND	0.160	ND	0.160 (<1)
145138	Building Exit Outside of Room 19, Right	ND	ND	ND	ND <1
145139	Building Exit Outside of Room 19, Left	ND	ND	ND	ND <1

PCB polychlorinated biphenyl
ppm_w parts per million by weight
ND none detected
< less than

1 PCB concentration analysis performed by Alpha Analytical, Inc., using U.S. Environmental Protection Agency Method 3540C.
2 Aroclor 1016, 1221, 1232, 1242, 1262, and 1268 also tested. All results below reporting levels, unless noted.

Table 6.8 Bulk Sample Results for PCBs from Wood Wall Panels Adjacent to Cove Base 4" from Source Material, Estabrook Elementary, Lexington, Massachusetts, May 11, 2013

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Aroclor 1254[1,2] (ppm_w)	Aroclor 1260[1,2] (ppm_w)	Total (ppm_w)
145163	Gym, Front Wall, Left	ND	0.274	ND	0.274
145164	Gym, Front Wall, Right	ND	0.596	ND	0.596
145165	Hallway Wall adjacent to Kitchen	ND	2.03	ND	2.03

PCB polychlorinated biphenyl
ppm_w parts per million by weight
ND none detected

1 PCB concentration analysis performed by Alpha Analytical, Inc., using U.S. Environmental Protection Agency Method 3540C.
2 Aroclor 1016, 1221, 1232, 1242, 1262, and 1268 also tested. All results below reporting levels, unless noted.

7.0 UTILITIES

Lexington will provide temporary electrical power for the remediation contractor consistent with information provided in the contract documents, additional work to distribute power will be the responsibility of the contractor. Temporary water will be provided on-site consistent with the contract documents. The abatement contractor will have to make arrangements to distribute all needed water for abatement and cleaning activities.

7.1 WATER SYSTEMS

All water systems running through the work area and not being used must be shut off at the source. For any system that must be left on, the location of a shut-off valve must be clearly marked on the emergency plan. Water systems used by the contractor should be consistent with Lexington requirements for the work activity.

7.2 ELECTRICAL SYSTEMS

Appropriate electrical systems that may pose a hazard during the abatement process must be shut down when being abated or cleaned. The power must be locked out at the control panel, and those individuals that have the ability to reenergize the area must be in close contact with the contractor and the remediation staff. The lockout of electrical systems must be conducted in accordance with the contractor's lockout/tagout safety program. Ground-fault circuit interrupters must be used for all temporary power supplies and extension cords.

7.3 EXISTING FACILITIES

Consistent with Lexington requirements, the contractor shall not conduct any work that will result in the damage of existing facilities and or grounds not part of the scope of work defined in the work plan.

8.0 SITE PREPARATIONS

8.1 GROUND COVER

In order to contain debris and to protect the environment during remediation, the contractor shall use sufficient ground cover along all areas where work will take place. A standard water-impervious tarp or equivalent, secured with tent stakes or spikes countersunk into the ground to prevent tripping, shall be used. The tarp shall extend sufficiently from the outside edge of the building envelope to capture any loose debris. On top of the secured tarp, place a single layer of 6-mil polyethylene sheeting temporarily secured with high quality fabric duct tape to prevent the sheeting from blowing or billowing due to weather/wind conditions. This sheeting shall serve to collect dust and debris from the demolition operations.

The abatement contractor at the end of every work shift shall remove all visible debris from ground cover and pavement by HEPA-filtered vacuuming. If tears or rips occur in the sheeting, the sheeting may be repaired with duct tape or removed and replaced with a new sheet, as warranted by the extent of the damage. The tarps and sheeting will be disposed as remediation waste.

8.2 SITE ISOLATION

During the abatement work, the contractor will need to address security and access concerns as part of the project. The contractor will employ dust control measures for all exterior work. The contractor will need to coordinate with Lexington, and EH&E to address site isolation issues. In addition, the contractor will need to document site isolation issues in the work plan submittals.

8.3 WASTE CONTAINERS

The contractor shall obtain and locate the approved PCB waste containers on-site. The contractor will coordinate the location of the PCB waste containers with other trades, Lexington project manager, and Lexington designated environmental consultant. The PCB waste containers shall be clearly marked as such to avoid confusion with ordinary waste containers. The contractor shall submit a waste handling and storage plan for approval.

9.0 MATERIAL STORAGE AND HANDLING PROCEDURES

9.1 PCB BULK PRODUCT AND REMEDIATION WASTE MATERIALS

PCB bulk product waste and remediation waste containing >50 ppm PCBs (e.g., caulking, sealants, paint, ceiling tile, floor tile, brick and other associated porous materials) shall be handled in a manner to avoid the breakdown of these materials into fine dust or powders. These materials shall be removed whole, without breakage if possible. Bridging encapsulant will be applied to painted materials concrete before controlled demolition and removal to minimize the release of PCBs during demolition.

Once removed, these materials shall be placed in the lined container or into an appropriate temporary container (e.g., 6-mil polyethylene disposal bag for caulk only) for transport into the PCB container at the end of the work shift. Material will be placed directly into the lined container designated for transport and will not be stockpiled. PCB waste and PCB-containing items shall be stored for disposal in accordance with 40 CFR 761.40 and §761.65. If temporary waste containers are used, then Lexington's environmental consultant must approve all temporary containers that will store PCB bulk product waste. Commercial grade plastic or hard rubber trash barrels lined with a single 6-mil plastic disposal bag and a lid are acceptable temporary containers. Once in the container, these materials will be covered and protected from the weather. All containers and temporary containers shall be clearly marked as PCB-containing waste materials.

To ensure that the material storage areas will not be a possible source of contaminants, EH&E may conduct limited air monitoring at the storage site. Any dried and brittle PCB bulk product or remediation wastes require additional care, such as the use of a HEPA-filtered vacuum operating while removing the material, to prevent the inadvertent release of PCB dust or powder into the environment.

All PCB bulk product and remediation waste containing PCBs >50 ppm will be containerized, transported, and disposed of as a hazardous waste designated as MA-02, PCBs >50 ppm. All PCB source material, and associated adjacent building material characterized as a bulk product waste with PCBs >50 ppm will be disposed of in the appropriate landfill selected by the remediation contractor

All PCB bulk product waste containing PCBs <50 ppm will be containerized, transported, and disposed of in a facility that can accept PCBs bulk product wastes <50 ppm. All PCB building material characterized as a bulk product waste with PCBs <50 ppm will be disposed of in an appropriate landfill selected by the remediation contractor.

9.2 PCB EXCLUDED PRODUCT

Excluded PCB product waste materials are those that contain <50 ppm PCBs, and are not considered bulk product waste or remediation waste. Excluded PCB product waste materials, are not regulated under 40 CFR 761; however, limitations exist in the disposal of materials containing concentrations of PCBs, depending on the location of the waste generator. All waste that is considered excluded product, or contains PCB between >1 ppm and <50 ppm will be disposed of in landfill facility, appropriately permitted to accept waste materials containing <50 ppm PCBs, and is not considered a bulk product waste (generated in the state of Massachusetts). It should be noted that additional waste characterization testing (TCLP) may be required, as specified by the selected disposal facility, to ensure that proper characterization has been performed prior to disposal.

10.0 DISPOSAL

Disposal of all waste shall be in accordance with applicable state and federal regulations and sent to a licensed facility that will receive and retain PCB bulk product waste and PCB remediation waste, in accordance with EPA regulations under 40 CFR 761.61 and §761.62. All PCB bulk product waste and PCB remediation waste removed from the site will be kept separate from other ordinary construction waste streams that the contractor may generate. Copies of all bills of lading, waste shipment records, certificates of disposal, and any other documentation must be provided to the Lexington project manager as proof of proper disposal of waste. Furthermore, copies of all manifests shall be provided to the EPA as part of the final summary report.

PCB bulk product and PCB remediation wastes will be stored according to applicable EPA TSCA regulations. The contractor shall ensure compliance with storage and marking requirements described in 40 CFR 761.40 and §761.65. The contractor shall also ensure that no visible emissions of dust will occur during the disposal of PCB bulk product and PCB remediation wastes into appropriate disposal containers.

The PCB bulk product waste and PCB remediation waste shall be disposed of in accordance with 40 CFR 761.62 and §761.61, respectively, at an approved landfill for such disposal. The contractor shall submit the name of the landfill(s) with appropriate documentation to verify that it is capable of accepting PCB waste in accordance with these requirements.

If PCB bulk product waste requires TCLP analysis prior to disposal, as required by the disposal facility, sampling and analysis will generally be conducted in compliance with Subpart R of the TSCA regulations, or at equivalent frequencies.

11.0 DECONTAMINATION AND REMOVAL PROCEDURES

Contractors must obtain proper permits and conduct work in compliance with all applicable regulations, including the TSCA, the RCRA, and any other applicable federal, state, and local laws. Abatement procedures for the work shall consist of the removal of specified PCB-containing materials.

11.1 CAULK REMOVAL

The PCB-containing caulk is also an ACM and therefore removal and disposal must comply with all applicable regulations for mixed waste. Caulking will be removed using the following procedures:

- Locate area to abate and verify that proper site protection is in place.
- Hand scrape or chisel to remove caulk from the surrounding material surface to achieve no visible caulk on the adjacent surfaces.
- Moisten porous building materials with water using a low-pressure hand-held sprayer (e.g., garden sprayer) and maintain moisture content to reduce dust levels.
- Clean up dust and residues with HEPA-filtered vacuuming and/or wet wiping techniques.
- If wet cutting methods are used, ensure that identified PCB-containing materials are segregated from the waste stream.
- Mechanical grinding or ice blasting (if necessary) can only be conducted in full negative containment because the caulk is also an ACM.
- Deploy a flexible, ribbed exhaust duct equipped with an attachment device so that it can be repositioned to ventilate the scraping area. A disposable particle filter shall be attached to the open end of the exhaust duct to prevent the buildup of PCB particulates inside the duct. Attach a HEPA-filtered exhaust fan unit to the duct.
- If porous surfaces are removed, ensure that items designated as PCB remediation or bulk product waste are transported to the appropriate disposal dumpster via sealed bags or containers.
- No chutes or other transport methods that may generate fugitive emissions may be used to dispose PCB remediation or bulk product waste from the work area.

Upon completion of the cleaning, the designated environmental consultant will conduct visual inspections to verify the completeness of the cleaning effort.

11.2 EXTERIOR BRICK ENCAPSULATION AND REMOVAL

In conjunction with demolition work, the contractor will encapsulate and remove PCB paint and caulk, and impacted materials on the interior and exterior of the building.

11.2.1 Encapsulation

The application of the encapsulant is a temporary measure to minimize exposure during demolition and management of the demolition debris. This protective coating is referred to as a bridging encapsulant, as it creates a thick coating atop the impacted brick. It is applied to minimize potential dust release to air and soil from the coating during demolition.

The bridging encapsulant proposed for this project is Fosters 32-32 Bridging encapsulant, a 100% acrylic elastomeric water-based coating, or similar approved coating, which will be applied to the PCB-painted walls at the Building based upon the results of the sampling and analysis described in Section 5.1.1.

The encapsulant will be applied to the brick, CMU and/or concrete prior to demolition to minimize the release of PCBs to the environment. A colorant will be added to brick and concrete with concentrations at or exceeding 50 ppm and failing TCLP testing to facilitate segregation of waste streams.

The contractor will ensure that the encapsulant is applied in accordance with manufacturer's recommendations and that adequate time will be provided for curing prior to demolition.

11.2.2 Brick and Concrete Removal

PCB paint and caulk impacted bricks will be removed subsequent to the encapsulation process. Selective demolition by mechanical means will allow these materials to be segregated from other waste streams and placed directly into lined containers to await disposal at an appropriate offsite facility.

12.0 ABATEMENT COMPLETION ACCEPTANCE CRITERIA

As part of the abatement process, verification that abatement and decontamination have been properly completed and meet the acceptance criteria described in this section will be required at Estabrook Elementary School. Pre-remediation characterization sampling has been conducted to verify the locations remediation activities. Lexington's environmental consultant will conduct visual inspections for verification that abatement has been completed according to the remediation plan.

12.1 VISUAL INSPECTION CRITERIA

Upon completion of the work, Lexington's environmental consultant will inspect decontaminated areas and surfaces for visible evidence of dust or debris and inspect for the presence of any PCB source material. All areas where abatement activities have occurred shall be inspected. Inspections of various systems or surfaces will be conducted as the cleaning and decontamination is completed if, at the discretion of Lexington's environmental consultant, recontamination of the surface by ongoing work is highly unlikely. Visual inspection will be used as verification that abatement has been completed.

The acceptance criterion is that all surfaces that require cleaning or decontamination, including protective sheeting and tarps, shall be free of visible dust and debris. In addition, no PCB material specified for removal shall remain in place.

12.2 PCB SAMPLING CRITERIA

12.2.1 Bulk Samples

Bulk (e.g., brick and concrete) samples from porous surfaces in contact with specified caulking and concrete in contact with PCB materials are described in section 6. Samples were extracted/analyzed in accord with EPA Methods 3540C/8082. As required for disposal materials will be tested via TCLP analysis, and if concentrations do not exceed 10 micrograms per liter in the leachate, they will be disposed in an appropriately licensed RCRA Title D landfill. Materials that exceed the TCLP criterion will be disposed as TSCA waste in an appropriately licensed RCRA Title C landfill.

EH&E utilized the EPA's *draft* Standard Operating Procedure For Sampling Concrete in the Field (dated December 30, 1997) for collecting pre-characterization samples. It is specified that a removal boundary of 4 inches or a complete course of brick, CMU, and concrete will be removed based upon characterization sampling. The sampled areas were selected to adequately represent the variety of conditions observed.

12.3 AIR MONITORING

Lexington's environmental consultant will perform ambient work area sampling and testing for airborne particulates during remediation activities. Air monitoring will focus on the stages of removal work of the building where potential impacts to surrounding areas may be more significant. Air samples will be collected using real-time instrumentation to measure airborne dust levels at the perimeter of the work area. These measurements will be compared to background dust levels collected at a control location upwind of the remediation activity. Direct reading instruments that continuously measure and log dust concentrations will be used to provide a real-time proxy of the effectiveness of control measures and potential PCB concentrations. During abatement a minimum of one upwind and two downwind stations will be deployed.

EH&E recommends use a one-hour average concentration of 150 micrograms per cubic meter ($\mu g/m^3$) for particulate matter that is 10 microns or smaller in size (PM_{10}) (based upon the National Ambient Air Quality Standards) as an action level for notification to the Remediation Contractor. This action level is the observed concentration above background as measured at the remote upwind location. If dust levels outside of the remediation area exceed action levels for more than one hour, the remediation work will be temporarily suspended until evaluation of dust suppression strategies, or the ambient environment has been performed.

Air sampling will be performed and evaluated by Lexington's Environmental consultant. Real-time, data-logging aerosol monitors will collect and record data for total airborne dust concentrations during the abatement work. A DustTrak™, manufactured by TSI Instruments (St. Paul, Minnesota) or equivalent will be used to conduct the monitoring. The DustTrak™ instrument measures airborne dust concentrations with an accuracy of one percent and a resolution of 1 $\mu g/m^3$, using a forward light scattering laser diode. The monitoring range of the DustTrak™ is 0.001 – 100 milligrams per cubic meters. The unit is factory calibrated annually.

12.4 QUALITY ASSURANCE/QUALITY CONTROL

This section describes the quality assurance objectives, measurement criteria, and performance criteria that were employed for this program. The selected analytical test methods for this project will have laboratory quantification limits that are lower than the established project action limits.

The ultimate objective of this project is to remove PCB materials as specified in this plan. The data collected must be of sound quality to support a determination that sources have been removed to meet the acceptance criteria.

The ability of the data to meet the project quality objectives shall be measured using data quality criteria, which include precision, accuracy, representativeness, comparability, completeness, and

sensitivity parameters. Laboratory and field sampling activity documentation will be used to assess these parameters. In addition, only certified laboratories shall be used to ensure proper data handling techniques. The acceptance criteria and frequency of measurement of these parameters are summarized in Table 12.1.

Table 12.1 Quality Assurance and Control by Media

Data Quality Indicators	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	Frequency
Matrix Bulk Samples			
Precision—Overall	±45%	Field duplicates	Minimum: One per group or 10% of samples
Accuracy/Bias	Acceptable quality control range based on analytical technique	Laboratory control (PE) samples	Double column GC Surrogate compound
Accuracy/Bias—Contamination	No target analytes above laboratory quantification limit with the exception of common field/laboratory contaminants	1. Equipment blanks 2. Method blanks	Minimum: One per group
Comparability	Not applicable	Comparability check	Double column GC
Data completeness	90% Overall	Data completeness check	
Sensitivity	±100%	1. Laboratory fortified blank 2. Low calibration standard	Minimum: One per group or 10% of samples

QC quality control
GC gas chromatography

12.4.1 Precision

Precision is the degree of agreement among repeated measurements of the same characteristic under the same or similar conditions. In general, EH&E collects one duplicate sample for every ten samples collected or 10% of the sample size. No less than one duplicate set was collected, regardless of the sample size. The identity of the duplicate sample(s) is not revealed to the analytical laboratory. The target precision among field duplicates is ±45%, indicating good reproducibility. Because of the low possibility of residual PCBs in the collected samples, EH&E believes that a precision of 45% will be an acceptable indicator for reproducibility. Precision levels greater than 45% will not invalidate the sample data set, but will be flagged to caution users about the variability within the data.

12.4.2 Accuracy

Accuracy is the extent of agreement between an observed value (sample result) and the accepted or true value of the parameter being measured. EH&E employs proper quality control (QC) techniques, including the submittal of two field blanks or 10% of the sample number, whichever one is greater. In addition, all field equipment are calibrated and maintained to minimize variability. EH&E also observes proper handling and packaging techniques to preserve the

integrity of the samples. Where appropriate, EH&E will use pre-spiked samples prepared by the laboratory to document the integrity of the sampling and analytical process. The appropriate laboratory QC program and analytical method determine acceptable recoveries. The laboratory utilized spiked samples, reference standards, and blanks to assure accuracy. Recoveries outside the acceptable limits will not invalidate the sample data set; however, the data will be flagged to warn of its reliability.

12.4.3 Representativeness

Representativeness is a qualitative term that describes the extent to which a sampling design adequately reflects the environmental conditions of a site. The samples are selected to represent the various field conditions and the types of areas that will be remediated.

12.4.4 Reasonableness

All data are evaluated for reasonableness based on existing knowledge of the Aroclor mixtures in the building environment. Any data that substantially falls outside these expected levels will be further evaluated for accuracy and additional data collection may be required.

12.4.5 Completeness

Completeness is a measure (percentage) of the amount of valid data obtained meeting the data quality objectives. Valid data are data that are soundly founded as evidenced by the data quality indicators. The acceptable completeness percentage for this project is 90%.

13.0 SITE CLOSE-OUT

Upon successful completion of the work, including meeting the acceptance criteria specified in Section 12, the contractor will demobilize from the Site and will complete the following specific tasks:

- Removal of all abatement materials.
- Removal of containers and off-site disposal of all waste.
- Repair of any damage to site systems or components caused by the abatement contractor's work.

14.0 HEALTH AND SAFETY

14.1 CONTRACTOR HEALTH AND SAFETY PLAN

The abatement contractor must submit a written health and safety plan that details engineering controls, practices and procedures, protective equipment, and training that will be used to control and minimize exposures. In addition, the plan will include provisions for all relevant health and safety issues. This plan must be submitted with the bid proposal and will be considered in the bid selection process.

The safety plan shall include copies of training materials and training records for those who will be working on-site at any time during the remediation project. If new employees are hired during the course of the work, they must receive training prior to beginning work and evidence of this training must be provided to Lexington's project manager and environmental consultant.

14.2 OSHA REGULATIONS

All applicable federal and state OSHA standards and regulations to ensure worker safety will be in effect during the abatement process. The following programs must be addressed in the contractor's health and safety plan. This is not a comprehensive list of the required programs, and the contractor is responsible for determining which programs apply and how best to implement the required programs.

- Fall Protection
- Personal Protective Equipment
- Lockout/Tagout
- Confined Spaces
- Machine Safety
- Ladder/Scaffolding Safety
- Electrical Safety
- Housekeeping (Slips, Trips, Falls)
- Injury Reporting
- First Aid
- Hazardous Waste Operations and Emergency Response/Hazardous Materials (HAZWOPER/HAZMAT)
- Asbestos Abatement

14.3 PUBLIC SAFETY

A large portion of the work will take place from the exterior of the building. As such, the contractor, in conjunction with Lexington, will need to ensure public safety during the abatement work. The contractor will need to implement control and/or containment measures designed to protect workers and the environment from the release of PCB-containing materials. Containment may include, but not be limited to, draping work areas, the use of HEPA filters to collect fugitive emissions during the dust generating operations, isolation of work areas from occupied areas, blocking off windows, and protective wind screens.

Access to work areas will need to be limited to ensure that only workers aware of the abatement project will be within the Site. Proper hygiene and decontamination procedures must be followed to limit the potential for transferring PCB remediation waste outside the work area.

During the remediation work, Lexington or their designee will conduct visual assessments to verify the effectiveness of the containment controls of the abatement contractor. If observations indicate that additional containment or engineering controls are required, the abatement contractor will be responsible for making the necessary adjustments to engineering controls and work practices to minimize fugitive emissions, as determined by Lexington's environmental consultant. In addition, if there is evidence of PCB bulk product waste or remediation waste outside of the immediate work area (as determined by visual inspection by Lexington's environmental consultant), the abatement contractor shall be responsible for cleaning up the dust/debris in accordance with the procedures and to the standards specified in this plan, and shall modify controls and procedures to prevent a reoccurrence, at no cost to Lexington.

15.0 FINAL APPROVAL AND ACCEPTANCE

Final approval of the remedial work will be given when the following conditions are met:

- The work has been completed in a professionally competent manner, as demonstrated by successful visual inspections described in Section 12.
- The Site has been successfully closed out.
- Lexington will receive a completed and accurate waste manifest for every PCB waste container removed from the building's waste storage location.

Both the Lexington project manager and EH&E must give final approval. Approval of the abatement and remediation will be given by Lexington's environmental consultant in consultation with the project manager.

APPENDIX A

FIGURES

NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

TITLE:	Site Locus Plan
CLIENT:	DiNisco Design
LOCATION:	Joseph Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.1
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

TITLE:	Locations of Painted Surfaces
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.2
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

TITLE:	Locations of Cove Base/Curtain Wall's Covers and Mastics
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.3
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

TITLE:	Locations of Ceiling Tiles
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.4
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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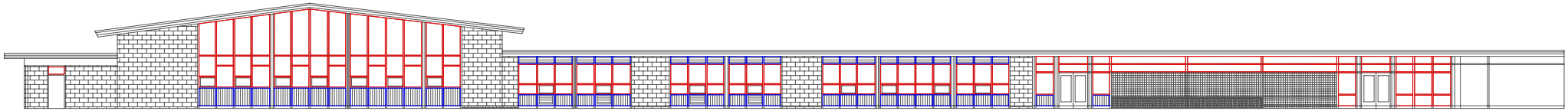
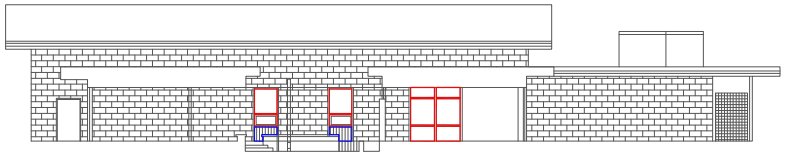
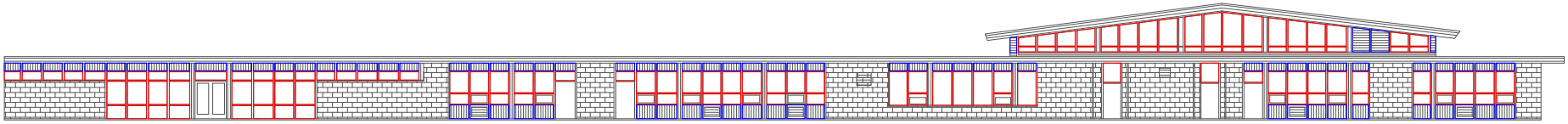


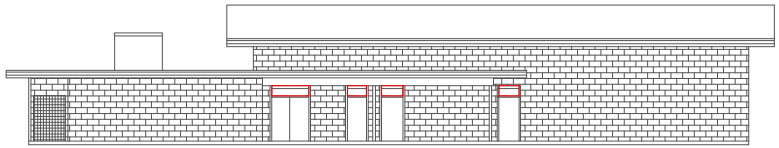
West Elevation



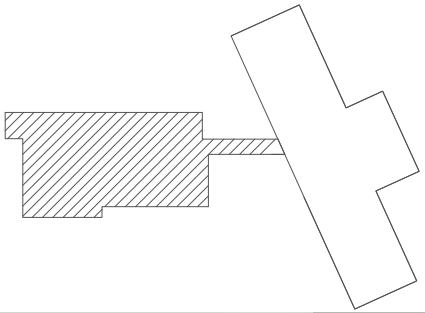
South Elevation



East Elevation



North Elevation



Interior/Exterior Window Glazing Sealant
Interior/Exterior Window Panel Sealant

NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

TITLE:	Locations of Window Glazing Sealant & Interior/Exterior Panel Caulk In "A" Building
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.5
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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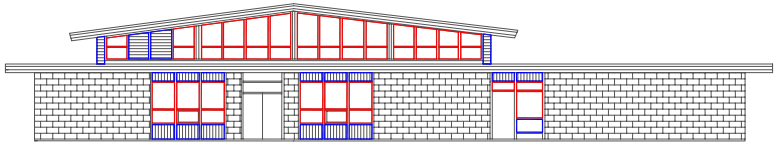
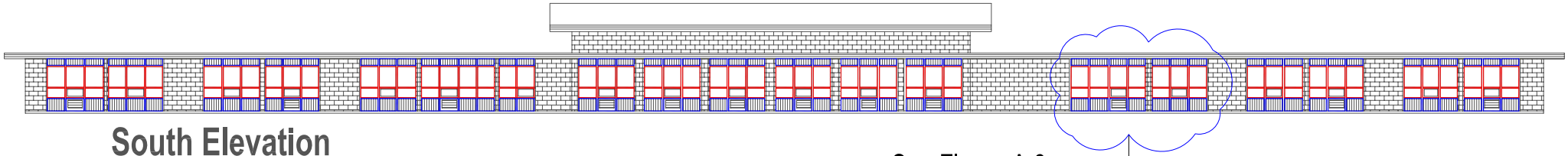
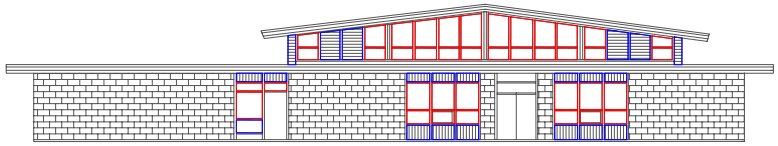


West Elevation

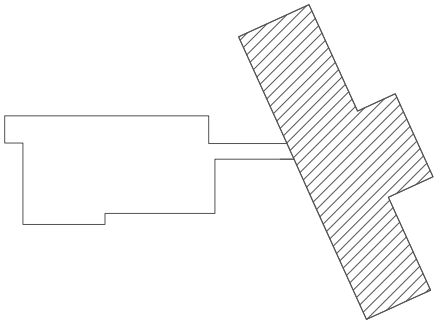


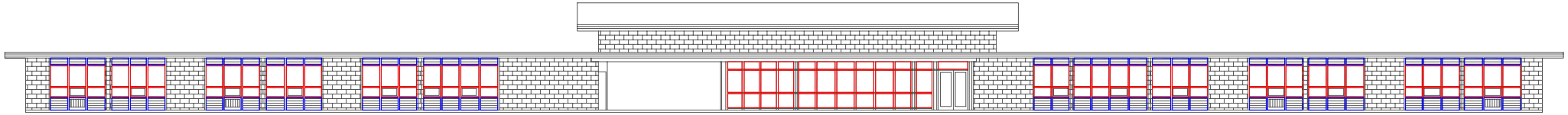
South Elevation

See Figure A.9



East Elevation





North Elevation

Interior/Exterior Window Glazing Sealant
Interior/Exterior Window Panel Sealant

NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

TITLE:	Locations of Window Glazing Sealant & Interior/Exterior Panel Caulk In "B" Building
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.6
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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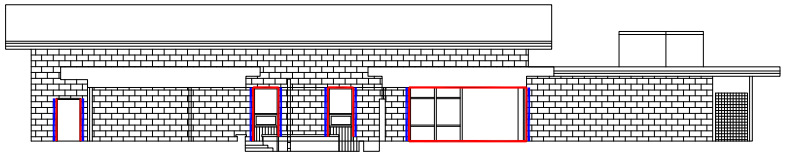
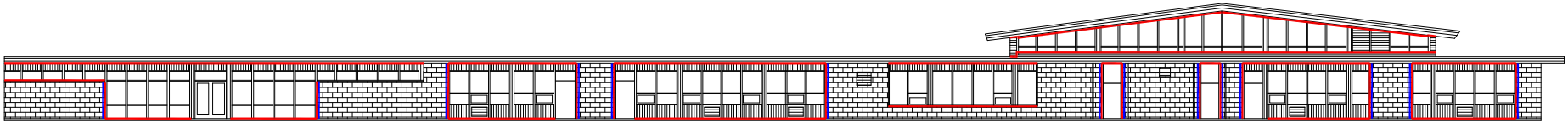
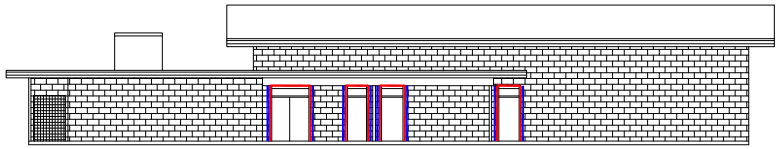
West Elevation



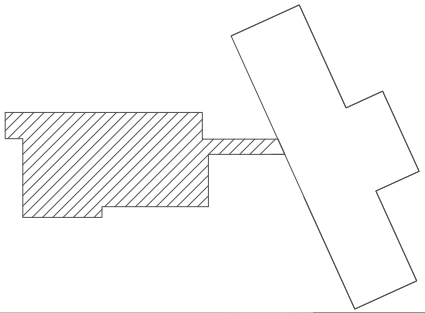
South Elevation



East Elevation



North Elevation



Interior/Exterior Horizontal & Vertical Frame Caulk
Exterior Encapsulated Brick

NOTES
1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

TITLE:	Locations of Interior/Exterior Horizontal & Vertical Frame Caulk and Exterior Encapsulated Brick in "A" Building
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.7
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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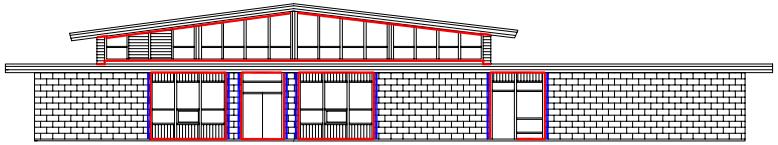
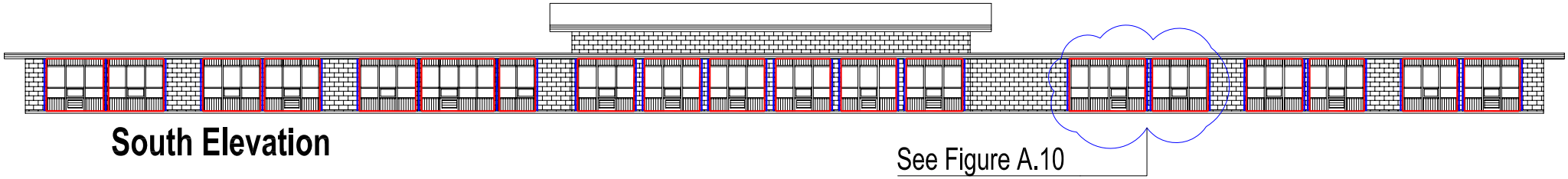
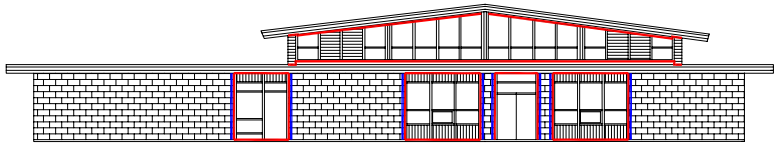


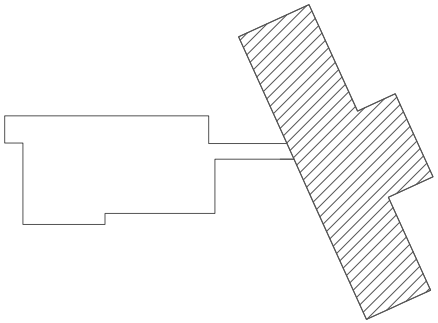
West Elevation

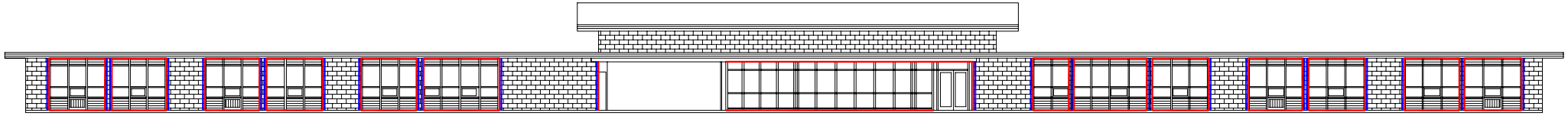


South Elevation



East Elevation





North Elevation

Interior/Exterior Horizontal & Vertical Frame Caulk
Exterior Encapsulated Brick

NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. EXTERIOR FRAME CAULKING HAS BEEN REMOVED AND ADJACENT MATERIALS ENCAPSULATED.

N

TITLE:	Locations of Interior/Exterior Horizontal & Vertical Frame Caulk and Exterior Encapsulated Brick in "B" Building
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.8
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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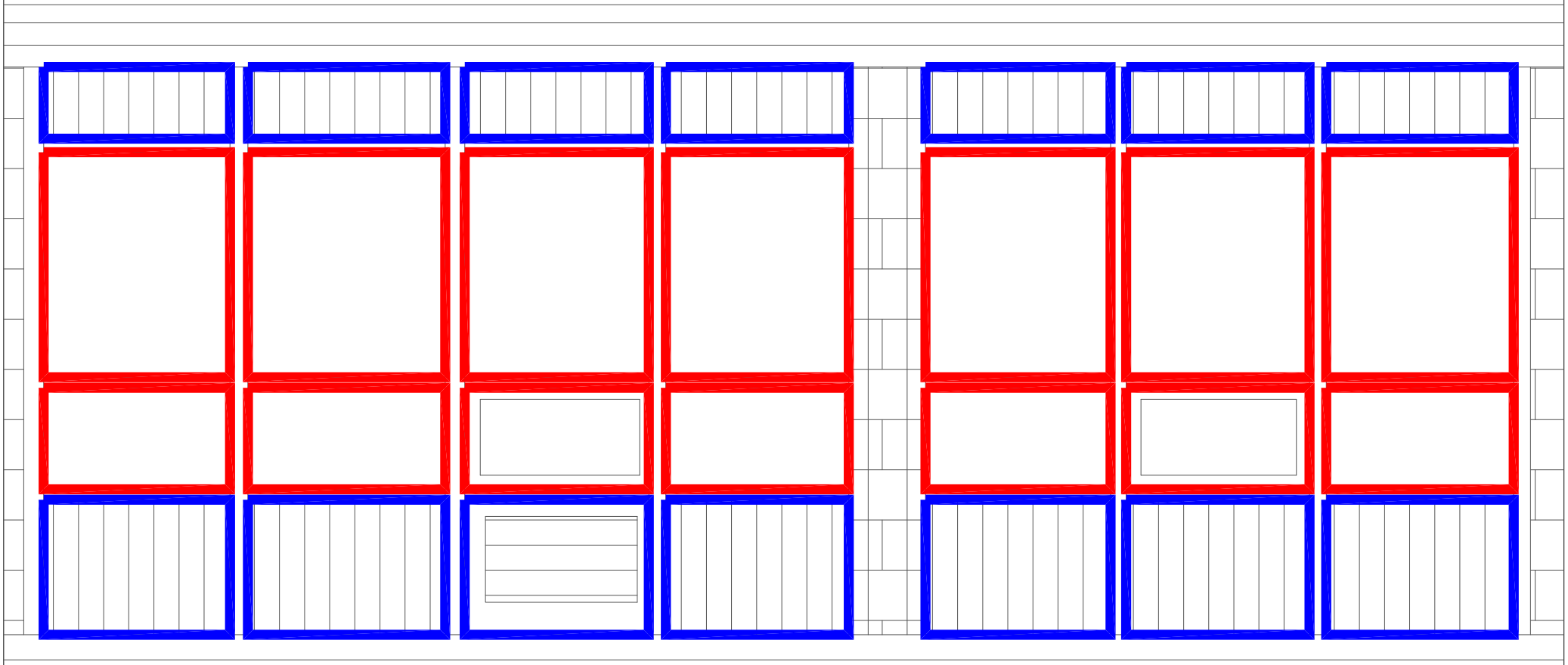

Interior/Exterior Window Glazing Sealant
Interior/Exterior Window Panel Sealant

NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

TITLE:	Detail Drawing of Interior/Exterior WIndow GlazIng & Panel Sealant
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.9
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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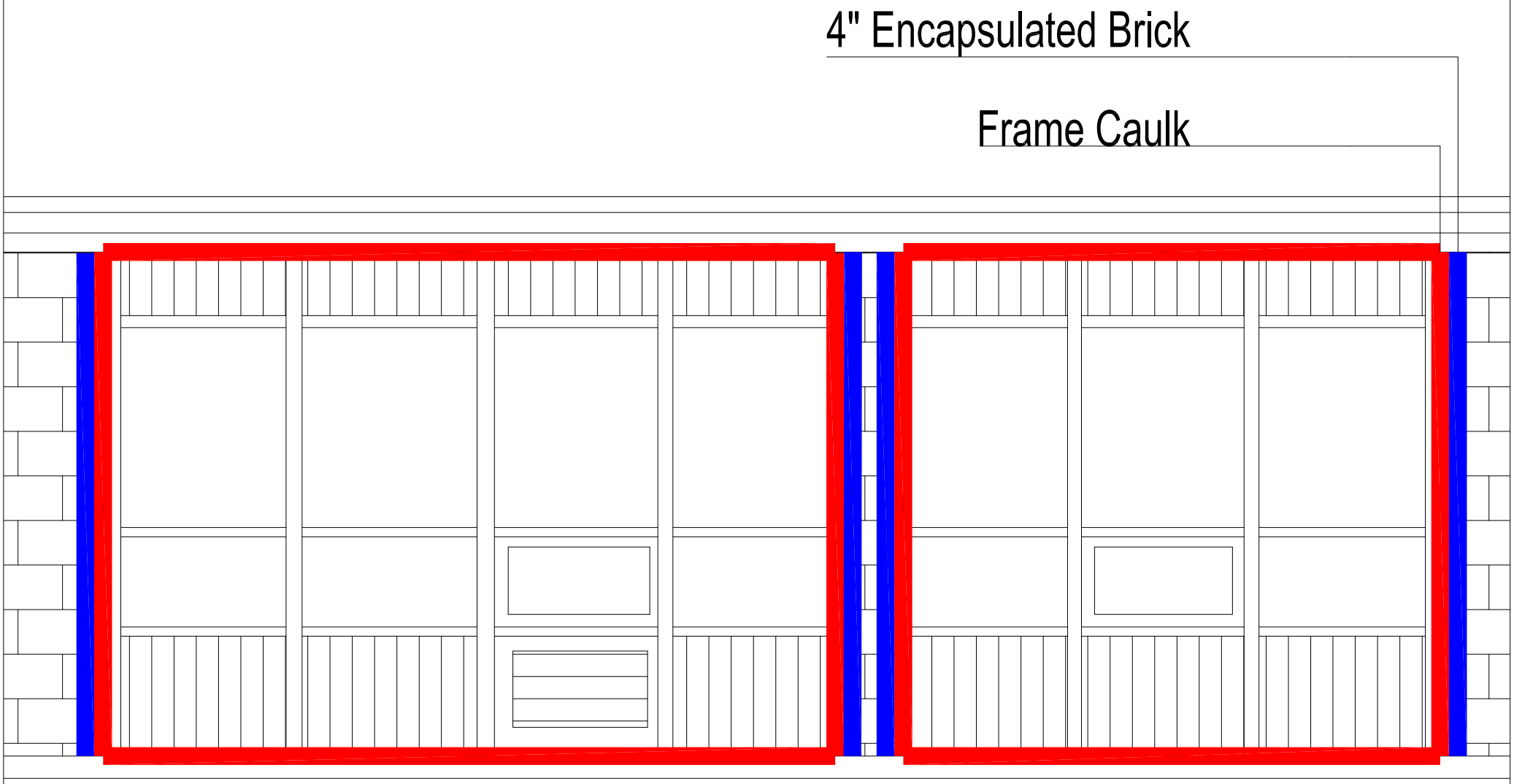

Interior/Exterior Horizontal & Vertical Frame Caulk
Exterior Encapsulated Brick

NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. EXTERIOR FRAME CAULKING HAS BEEN REMOVED AND ADJACENT MATERIALS ENCAPSULATED.

N

TITLE:	Detail Drawing of Interior/Exterior Horizontal & Vertical Frame Caulk and Exterior Encapsulated Brick
CLIENT:	DiNisco Design
LOCATION:	Estabrook Elementary School 117 Grove Street Lexington, Massachusetts
FIGURE ID:	A.10
DATE:	4/2/2013
CREATED:	TQT
PROJECT:	18750
	PAGE 1 OF 1

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APPENDIX B

LABORATORY REPORTS

ANALYTICAL REPORT

Lab Number:	L1300017
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	18536
Report Date:	01/08/13

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: Not Specified
Project Number: 18536

Lab Number: L1300017
Report Date: 01/08/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1300017-01	136825	Not Specified	12/28/12 00:00
L1300017-02	136826	Not Specified	12/28/12 00:00
L1300017-03	136827	Not Specified	12/28/12 00:00
L1300017-04	136828	Not Specified	12/28/12 00:00
L1300017-05	136829	Not Specified	12/28/12 00:00
L1300017-06	136830	Not Specified	12/28/12 00:00
L1300017-07	136831	Not Specified	12/28/12 00:00
L1300017-08	136832	Not Specified	12/28/12 00:00
L1300017-09	136833	Not Specified	12/28/12 00:00
L1300017-10	136834	Not Specified	12/28/12 00:00
L1300017-11	136835	Not Specified	12/28/12 00:00
L1300017-12	136836	Not Specified	12/28/12 00:00
L1300017-13	136837	Not Specified	12/28/12 00:00

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300017
Report Date: 01/08/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: Not Specified
Project Number: 18536

Lab Number: L1300017
Report Date: 01/08/13

Case Narrative (continued)

PCBs

The surrogate recoveries for L1300017-01 through -04 and -08 through -13 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (all 0%) due to the dilutions required to quantitate the samples. Re-extraction was not required; therefore, the results of the original analyses are reported. L1300017-03, -09, and -11 have elevated detection limits due to limited sample volume available for analysis.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative

Date: 01/08/13

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300017
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-01	D	Date Collected:	12/28/12 00:00
Client ID:	136825		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/08/13 10:33		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	6040	--	100
Aroclor 1221	ND		ug/kg	6040	--	100
Aroclor 1232	ND		ug/kg	6040	--	100
Aroclor 1242	ND		ug/kg	6040	--	100
Aroclor 1248	ND		ug/kg	4020	--	100
Aroclor 1260	ND		ug/kg	4020	--	100
Aroclor 1262	ND		ug/kg	2010	--	100
Aroclor 1268	ND		ug/kg	2010	--	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300017
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-01	D	Date Collected:	12/28/12 00:00
Client ID:	136825		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/08/13 10:33		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	103000		ug/kg	6040	--	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-02	D	Date Collected:	12/28/12 00:00
Client ID:	136826		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/08/13 10:47		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	6510	--	100
Aroclor 1221	ND		ug/kg	6510	--	100
Aroclor 1232	ND		ug/kg	6510	--	100
Aroclor 1242	ND		ug/kg	6510	--	100
Aroclor 1248	ND		ug/kg	4340	--	100
Aroclor 1254	85500		ug/kg	6510	--	100
Aroclor 1260	ND		ug/kg	4340	--	100
Aroclor 1262	ND		ug/kg	2170	--	100
Aroclor 1268	ND		ug/kg	2170	--	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-03	D	Date Collected:	12/28/12 00:00
Client ID:	136827		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 13:57		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	8570	--	20
Aroclor 1221	ND		ug/kg	8570	--	20
Aroclor 1232	ND		ug/kg	8570	--	20
Aroclor 1242	ND		ug/kg	8570	--	20
Aroclor 1248	ND		ug/kg	5710	--	20
Aroclor 1260	ND		ug/kg	5710	--	20
Aroclor 1262	ND		ug/kg	2860	--	20
Aroclor 1268	ND		ug/kg	2860	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-03	D	Date Collected:	12/28/12 00:00
Client ID:	136827		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 13:57		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	91800		ug/kg	8570	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-04	D	Date Collected:	12/28/12 00:00
Client ID:	136828		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/08/13 11:27		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	5060	--	80
Aroclor 1221	ND		ug/kg	5060	--	80
Aroclor 1232	ND		ug/kg	5060	--	80
Aroclor 1242	ND		ug/kg	5060	--	80
Aroclor 1248	ND		ug/kg	3380	--	80
Aroclor 1254	75100		ug/kg	5060	--	80
Aroclor 1260	ND		ug/kg	3380	--	80
Aroclor 1262	ND		ug/kg	1690	--	80
Aroclor 1268	ND		ug/kg	1690	--	80

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-05 D	Date Collected:	12/28/12 00:00
Client ID:	136829	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 14:31	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	285	--	5
Aroclor 1221	ND		ug/kg	285	--	5
Aroclor 1232	ND		ug/kg	285	--	5
Aroclor 1242	ND		ug/kg	285	--	5
Aroclor 1248	ND		ug/kg	190	--	5
Aroclor 1260	ND		ug/kg	190	--	5
Aroclor 1262	ND		ug/kg	94.9	--	5
Aroclor 1268	ND		ug/kg	94.9	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		30-150
Decachlorobiphenyl	66		30-150
2,4,5,6-Tetrachloro-m-xylene	68		30-150
Decachlorobiphenyl	83		30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-05	D	Date Collected:	12/28/12 00:00
Client ID:	136829		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 14:31		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	3520		ug/kg	285	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		30-150
Decachlorobiphenyl	66		30-150
2,4,5,6-Tetrachloro-m-xylene	68		30-150
Decachlorobiphenyl	83		30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-06 D	Date Collected:	12/28/12 00:00
Client ID:	136830	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 14:49	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	257	--	5
Aroclor 1221	ND		ug/kg	257	--	5
Aroclor 1232	ND		ug/kg	257	--	5
Aroclor 1242	ND		ug/kg	257	--	5
Aroclor 1248	ND		ug/kg	171	--	5
Aroclor 1260	ND		ug/kg	171	--	5
Aroclor 1262	ND		ug/kg	85.6	--	5
Aroclor 1268	ND		ug/kg	85.6	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	72		30-150
Decachlorobiphenyl	69		30-150
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	89		30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-06 D	Date Collected:	12/28/12 00:00
Client ID:	136830	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 14:49	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	3580		ug/kg	257	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	72		30-150
Decachlorobiphenyl	69		30-150
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	89		30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-07 D	Date Collected:	12/28/12 00:00
Client ID:	136831	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:06	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	288	--	5
Aroclor 1221	ND		ug/kg	288	--	5
Aroclor 1232	ND		ug/kg	288	--	5
Aroclor 1242	ND		ug/kg	288	--	5
Aroclor 1248	ND		ug/kg	192	--	5
Aroclor 1260	ND		ug/kg	192	--	5
Aroclor 1262	ND		ug/kg	96.2	--	5
Aroclor 1268	ND		ug/kg	96.2	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	79		30-150
Decachlorobiphenyl	72		30-150
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	96		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300017
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-07 D	Date Collected:	12/28/12 00:00
Client ID:	136831	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:06	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	3810		ug/kg	288	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	79		30-150
Decachlorobiphenyl	72		30-150
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	96		30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-08 D	Date Collected:	12/28/12 00:00
Client ID:	136832	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:23	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	584	--	10
Aroclor 1221	ND		ug/kg	584	--	10
Aroclor 1232	ND		ug/kg	584	--	10
Aroclor 1242	ND		ug/kg	584	--	10
Aroclor 1248	ND		ug/kg	389	--	10
Aroclor 1260	ND		ug/kg	389	--	10
Aroclor 1262	ND		ug/kg	194	--	10
Aroclor 1268	ND		ug/kg	194	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-08 D	Date Collected:	12/28/12 00:00
Client ID:	136832	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:23	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	6790		ug/kg	584	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-09	D	Date Collected:	12/28/12 00:00
Client ID:	136833		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:41		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	2170	--	20
Aroclor 1221	ND		ug/kg	2170	--	20
Aroclor 1232	ND		ug/kg	2170	--	20
Aroclor 1242	ND		ug/kg	2170	--	20
Aroclor 1248	ND		ug/kg	1450	--	20
Aroclor 1260	ND		ug/kg	1450	--	20
Aroclor 1262	ND		ug/kg	725	--	20
Aroclor 1268	ND		ug/kg	725	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-09	D	Date Collected:	12/28/12 00:00
Client ID:	136833		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:41		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	29500		ug/kg	2170	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-10	D	Date Collected:	12/28/12 00:00
Client ID:	136834		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:58		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	2720	--	50
Aroclor 1221	ND		ug/kg	2720	--	50
Aroclor 1232	ND		ug/kg	2720	--	50
Aroclor 1242	ND		ug/kg	2720	--	50
Aroclor 1248	ND		ug/kg	1810	--	50
Aroclor 1260	ND		ug/kg	1810	--	50
Aroclor 1262	ND		ug/kg	907	--	50
Aroclor 1268	ND		ug/kg	907	--	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-10	D	Date Collected:	12/28/12 00:00
Client ID:	136834		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 15:58		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	42700		ug/kg	2720	--	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-11	D	Date Collected:	12/28/12 00:00
Client ID:	136835		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 16:16		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	9490	--	50
Aroclor 1221	ND		ug/kg	9490	--	50
Aroclor 1232	ND		ug/kg	9490	--	50
Aroclor 1242	ND		ug/kg	9490	--	50
Aroclor 1248	ND		ug/kg	6330	--	50
Aroclor 1260	ND		ug/kg	6330	--	50
Aroclor 1262	ND		ug/kg	3160	--	50
Aroclor 1268	ND		ug/kg	3160	--	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-11 D	Date Collected:	12/28/12 00:00
Client ID:	136835	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 16:16	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	112000		ug/kg	9490	--	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-12	D	Date Collected:	12/28/12 00:00
Client ID:	136836		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 16:33		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1030	--	20
Aroclor 1221	ND		ug/kg	1030	--	20
Aroclor 1232	ND		ug/kg	1030	--	20
Aroclor 1242	ND		ug/kg	1030	--	20
Aroclor 1248	ND		ug/kg	687	--	20
Aroclor 1260	ND		ug/kg	687	--	20
Aroclor 1262	ND		ug/kg	344	--	20
Aroclor 1268	ND		ug/kg	344	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-12	D	Date Collected:	12/28/12 00:00
Client ID:	136836		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 16:33		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	14200		ug/kg	1030	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-13	D	Date Collected:	12/28/12 00:00
Client ID:	136837		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 16:51		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	551	--	10
Aroclor 1221	ND		ug/kg	551	--	10
Aroclor 1232	ND		ug/kg	551	--	10
Aroclor 1242	ND		ug/kg	551	--	10
Aroclor 1248	ND		ug/kg	368	--	10
Aroclor 1260	ND		ug/kg	368	--	10
Aroclor 1262	ND		ug/kg	184	--	10
Aroclor 1268	ND		ug/kg	184	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300017-13 D	Date Collected:	12/28/12 00:00
Client ID:	136837	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 16:51	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	6280		ug/kg	551	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified

Project Number: 18536

Lab Number: L1300017

Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 01/07/13 12:35
Analyst: SH

Extraction Method: EPA 3540C
Extraction Date: 01/02/13 17:05
Cleanup Method1: EPA 3665A
Cleanup Date1: 01/04/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 01/04/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 01-13 Batch: WG582383-1					
Aroclor 1016	ND		ug/kg	56.9	--
Aroclor 1221	ND		ug/kg	56.9	--
Aroclor 1232	ND		ug/kg	56.9	--
Aroclor 1242	ND		ug/kg	56.9	--
Aroclor 1248	ND		ug/kg	38.0	--
Aroclor 1254	ND		ug/kg	56.9	--
Aroclor 1260	ND		ug/kg	38.0	--
Aroclor 1262	ND		ug/kg	19.0	--
Aroclor 1268	ND		ug/kg	19.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	109		30-150
Decachlorobiphenyl	117		30-150
2,4,5,6-Tetrachloro-m-xylene	110		30-150
Decachlorobiphenyl	100		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18536

Lab Number: L1300017
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 01-13 Batch: WG582383-2 WG582383-3								
Aroclor 1016	84		92		40-140	9		50
Aroclor 1260	87		96		40-140	10		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	90		96		30-150
Decachlorobiphenyl	94		101		30-150
2,4,5,6-Tetrachloro-m-xylene	87		94		30-150
Decachlorobiphenyl	102		114		30-150

Project Name: Not Specified
Project Number: 18536

Lab Number: L1300017
Report Date: 01/08/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1300017-01A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-02A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-03A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-04A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-05A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-06A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-07A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-08A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-09A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-10A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-11A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-12A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)
L1300017-13A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1300017
Project Number:	18536	**Report Date:**	01/08/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1300017

Project Number: 18536 **Report Date:** 01/08/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1300017
Project Number: 18536 **Report Date:** 01/08/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

ALPHA Job # L1300017

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 1/2/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18536

The cost of this analysis will be covered by EH&E Purchase Order # 18536

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
136825	Paint	PCB's EPA 8082 with Soxhlet Extraction	12/28/12
136826			
136827			
136828			
136829			
136830			
136831			
136832			
136833			
136834			
136835			
136836			
136837			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient ttruong@eheinc.com; mfragala@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: Tom Truong of Environmental Health & Engineering, Inc. Date: 1/2/13

Received by: [signature] of (company name) EH & E Date: 1/2/13

Relinquished by: [signature] of (company name) EH & E Date: 1/2/13

Received by: [signature] of (company name) Alpha Date: 1/2/13 10:30

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

ANALYTICAL REPORT

Lab Number:	L1300015
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	18536
Report Date:	01/08/13

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

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: Not Specified
Project Number: 18536

Lab Number: L1300015
Report Date: 01/08/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1300015-01	142194	Not Specified	12/28/12 00:00
L1300015-02	142195	Not Specified	12/28/12 00:00
L1300015-03	142196	Not Specified	12/28/12 00:00
L1300015-04	142197	Not Specified	12/28/12 00:00
L1300015-05	142198	Not Specified	12/28/12 00:00
L1300015-06	142199	Not Specified	12/28/12 00:00
L1300015-07	142200	Not Specified	12/28/12 00:00
L1300015-08	142201	Not Specified	12/28/12 00:00
L1300015-09	142202	Not Specified	12/28/12 00:00
L1300015-10	142203	Not Specified	12/28/12 00:00
L1300015-11	142204	Not Specified	12/28/12 00:00
L1300015-12	142205	Not Specified	12/28/12 00:00
L1300015-13	142206	Not Specified	12/28/12 00:00
L1300015-14	142207	Not Specified	12/28/12 00:00
L1300015-15	142208	Not Specified	12/28/12 00:00
L1300015-16	142209	Not Specified	12/28/12 00:00
L1300015-17	142210	Not Specified	12/28/12 00:00
L1300015-18	142211	Not Specified	12/28/12 00:00
L1300015-19	142212	Not Specified	12/28/12 00:00
L1300015-20	142213	Not Specified	12/28/12 00:00
L1300015-21	142214	Not Specified	12/28/12 00:00
L1300015-22	142215	Not Specified	12/28/12 00:00
L1300015-23	142216	Not Specified	12/28/12 00:00
L1300015-24	142217	Not Specified	12/28/12 00:00
L1300015-25	142218	Not Specified	12/28/12 00:00

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: Not Specified **Lab Number:** L1300015
Project Number: 18536 **Report Date:** 01/08/13

Case Narrative (continued)

PCBs

The surrogate recoveries for L1300015-25 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (all 0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 01/08/13

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-01	Date Collected:	12/28/12 00:00
Client ID:	142194	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 13:14	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	103		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	108		30-150
Decachlorobiphenyl	108		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-02	Date Collected:	12/28/12 00:00
Client ID:	142195	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 13:28	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	107		30-150
Decachlorobiphenyl	112		30-150
2,4,5,6-Tetrachloro-m-xylene	108		30-150
Decachlorobiphenyl	111		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-03	Date Collected:	12/28/12 00:00
Client ID:	142196	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 13:40	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	99		30-150
Decachlorobiphenyl	107		30-150
2,4,5,6-Tetrachloro-m-xylene	103		30-150
Decachlorobiphenyl	106		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-04	Date Collected:	12/28/12 00:00
Client ID:	142197	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 13:52	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	77		30-150
Decachlorobiphenyl	81		30-150
2,4,5,6-Tetrachloro-m-xylene	80		30-150
Decachlorobiphenyl	79		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-05	Date Collected:	12/28/12 00:00
Client ID:	142198	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 14:03	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	112		30-150
Decachlorobiphenyl	116		30-150
2,4,5,6-Tetrachloro-m-xylene	117		30-150
Decachlorobiphenyl	115		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-06	Date Collected:	12/28/12 00:00
Client ID:	142199	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 14:16	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	115		30-150
Decachlorobiphenyl	122		30-150
2,4,5,6-Tetrachloro-m-xylene	119		30-150
Decachlorobiphenyl	122		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-07	Date Collected:	12/28/12 00:00
Client ID:	142200	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 14:28	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	106		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	111		30-150
Decachlorobiphenyl	108		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-08	Date Collected:	12/28/12 00:00
Client ID:	142201	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:02	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	103		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	105		30-150
Decachlorobiphenyl	106		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-09	Date Collected:	12/28/12 00:00
Client ID:	142202	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:14	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	101		30-150
Decachlorobiphenyl	106		30-150
2,4,5,6-Tetrachloro-m-xylene	105		30-150
Decachlorobiphenyl	107		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-10	Date Collected:	12/28/12 00:00
Client ID:	142203	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:27	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	101		30-150
Decachlorobiphenyl	107		30-150
2,4,5,6-Tetrachloro-m-xylene	105		30-150
Decachlorobiphenyl	105		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-11	Date Collected:	12/28/12 00:00
Client ID:	142204	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:39	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	102		30-150
Decachlorobiphenyl	111		30-150
2,4,5,6-Tetrachloro-m-xylene	106		30-150
Decachlorobiphenyl	109		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-12	Date Collected:	12/28/12 00:00
Client ID:	142205	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 16:41	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	107		30-150
Decachlorobiphenyl	113		30-150
2,4,5,6-Tetrachloro-m-xylene	111		30-150
Decachlorobiphenyl	114		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-13	Date Collected:	12/28/12 00:00
Client ID:	142206	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 14:14	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	88		30-150
Decachlorobiphenyl	107		30-150
2,4,5,6-Tetrachloro-m-xylene	86		30-150
Decachlorobiphenyl	119		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-14	Date Collected:	12/28/12 00:00
Client ID:	142207	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 14:28	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	83		30-150
Decachlorobiphenyl	113		30-150
2,4,5,6-Tetrachloro-m-xylene	80		30-150
Decachlorobiphenyl	123		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-15	Date Collected:	12/28/12 00:00
Client ID:	142208	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 14:41	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	88		30-150
Decachlorobiphenyl	106		30-150
2,4,5,6-Tetrachloro-m-xylene	85		30-150
Decachlorobiphenyl	115		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-16	Date Collected:	12/28/12 00:00
Client ID:	142209	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 14:55	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	92		30-150
Decachlorobiphenyl	111		30-150
2,4,5,6-Tetrachloro-m-xylene	90		30-150
Decachlorobiphenyl	123		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-17	Date Collected:	12/28/12 00:00
Client ID:	142210	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:09	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	87		30-150
Decachlorobiphenyl	107		30-150
2,4,5,6-Tetrachloro-m-xylene	84		30-150
Decachlorobiphenyl	115		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-18	Date Collected:	12/28/12 00:00
Client ID:	142211	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:22	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	88		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	83		30-150
Decachlorobiphenyl	115		30-150

Project Name: Not Specified
Project Number: 18536

Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-19	Date Collected:	12/28/12 00:00
Client ID:	142212	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:36	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	86		30-150
Decachlorobiphenyl	109		30-150
2,4,5,6-Tetrachloro-m-xylene	82		30-150
Decachlorobiphenyl	117		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-20	Date Collected:	12/28/12 00:00
Client ID:	142213	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 15:50	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	95		30-150
Decachlorobiphenyl	111		30-150
2,4,5,6-Tetrachloro-m-xylene	93		30-150
Decachlorobiphenyl	124		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-21	Date Collected:	12/28/12 00:00
Client ID:	142214	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 16:03	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	91		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	89		30-150
Decachlorobiphenyl	123		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-22	Date Collected:	12/28/12 00:00
Client ID:	142215	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 16:17	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	97		30-150
Decachlorobiphenyl	113		30-150
2,4,5,6-Tetrachloro-m-xylene	95		30-150
Decachlorobiphenyl	126		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-23	Date Collected:	12/28/12 00:00
Client ID:	142216	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 16:31	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	96		30-150
Decachlorobiphenyl	113		30-150
2,4,5,6-Tetrachloro-m-xylene	92		30-150
Decachlorobiphenyl	124		30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-24	Date Collected:	12/28/12 00:00
Client ID:	142217	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 18:38
Analytical Date:	01/04/13 16:44	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	107		30-150
Decachlorobiphenyl	131		30-150
2,4,5,6-Tetrachloro-m-xylene	105		30-150
Decachlorobiphenyl	146		30-150

Project Name: Not Specified **Lab Number:** L1300015

Project Number: 18536 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-25	D	Date Collected:	12/28/12 00:00
Client ID:	142218		Date Received:	01/02/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 13:10		Cleanup Method1:	EPA 3665A
Analyst:	SH		Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	3640	--	50
Aroclor 1221	ND		ug/kg	3640	--	50
Aroclor 1232	ND		ug/kg	3640	--	50
Aroclor 1242	ND		ug/kg	3640	--	50
Aroclor 1248	ND		ug/kg	2430	--	50
Aroclor 1260	ND		ug/kg	2430	--	50
Aroclor 1262	ND		ug/kg	1210	--	50
Aroclor 1268	ND		ug/kg	1210	--	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1300015-25 D	Date Collected:	12/28/12 00:00
Client ID:	142218	Date Received:	01/02/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/02/13 17:05
Analytical Date:	01/07/13 13:10	Cleanup Method1:	EPA 3665A
Analyst:	SH	Cleanup Date1:	01/04/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/04/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	82400		ug/kg	3640	--	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified

Project Number: 18536

Lab Number: L1300015

Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 01/04/13 15:51
Analyst: SH

Extraction Method: EPA 3540C
Extraction Date: 01/02/13 18:38
Cleanup Method1: EPA 3665A
Cleanup Date1: 01/04/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 01/04/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 01-12 Batch: WG582378-1					
Aroclor 1016	ND		ug Abs	0.500	--
Aroclor 1221	ND		ug Abs	0.500	--
Aroclor 1232	ND		ug Abs	0.500	--
Aroclor 1242	ND		ug Abs	0.500	--
Aroclor 1248	ND		ug Abs	0.500	--
Aroclor 1254	ND		ug Abs	0.500	--
Aroclor 1260	ND		ug Abs	0.500	--
Aroclor 1262	ND		ug Abs	0.500	--
Aroclor 1268	ND		ug Abs	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	104		30-150
Decachlorobiphenyl	113		30-150
2,4,5,6-Tetrachloro-m-xylene	108		30-150
Decachlorobiphenyl	110		30-150

Project Name: Not Specified

Project Number: 18536

Lab Number: L1300015

Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 01/04/13 13:33
Analyst: SH

Extraction Method: EPA 3540C
Extraction Date: 01/02/13 18:38
Cleanup Method1: EPA 3665A
Cleanup Date1: 01/04/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 01/04/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 13-24 Batch: WG582382-1					
Aroclor 1016	ND		ug Abs	0.500	--
Aroclor 1221	ND		ug Abs	0.500	--
Aroclor 1232	ND		ug Abs	0.500	--
Aroclor 1242	ND		ug Abs	0.500	--
Aroclor 1248	ND		ug Abs	0.500	--
Aroclor 1254	ND		ug Abs	0.500	--
Aroclor 1260	ND		ug Abs	0.500	--
Aroclor 1262	ND		ug Abs	0.500	--
Aroclor 1268	ND		ug Abs	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	94		30-150
Decachlorobiphenyl	121		30-150
2,4,5,6-Tetrachloro-m-xylene	92		30-150
Decachlorobiphenyl	131		30-150

Project Name: Not Specified

Project Number: 18536

Lab Number: L1300015

Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 01/07/13 12:35
Analyst: SH

Extraction Method: EPA 3540C
Extraction Date: 01/02/13 17:05
Cleanup Method1: EPA 3665A
Cleanup Date1: 01/04/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 01/04/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 25 Batch: WG582383-1					
Aroclor 1016	ND		ug/kg	56.9	--
Aroclor 1221	ND		ug/kg	56.9	--
Aroclor 1232	ND		ug/kg	56.9	--
Aroclor 1242	ND		ug/kg	56.9	--
Aroclor 1248	ND		ug/kg	38.0	--
Aroclor 1254	ND		ug/kg	56.9	--
Aroclor 1260	ND		ug/kg	38.0	--
Aroclor 1262	ND		ug/kg	19.0	--
Aroclor 1268	ND		ug/kg	19.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	109		30-150
Decachlorobiphenyl	117		30-150
2,4,5,6-Tetrachloro-m-xylene	110		30-150
Decachlorobiphenyl	100		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18536
Lab Number: L1300015
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 01-12 Batch: WG582378-2 WG582378-3								
Aroclor 1016	112		128		40-140	13		50
Aroclor 1260	111		127		40-140	13		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	96		105		30-150
Decachlorobiphenyl	106		116		30-150
2,4,5,6-Tetrachloro-m-xylene	97		106		30-150
Decachlorobiphenyl	106		118		30-150

PCB by GC - Westborough Lab Associated sample(s): 13-24 Batch: WG582382-2 WG582382-3								
Aroclor 1016	104		103		40-140	1		50
Aroclor 1260	111		109		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	86		89		30-150
Decachlorobiphenyl	116		110		30-150
2,4,5,6-Tetrachloro-m-xylene	82		84		30-150
Decachlorobiphenyl	126		120		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: 18536

Lab Number: L1300015

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 25 Batch: WG582383-2 WG582383-3								
Aroclor 1016	84		92		40-140	9		50
Aroclor 1260	87		96		40-140	10		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	90		96		30-150
Decachlorobiphenyl	94		101		30-150
2,4,5,6-Tetrachloro-m-xylene	87		94		30-150
Decachlorobiphenyl	102		114		30-150

Project Name: Not Specified
Project Number: 18536

Lab Number: L1300015
Report Date: 01/08/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1300015-01A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-02A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-03A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-04A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-05A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-06A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-07A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-08A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-09A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-10A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-11A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-12A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-13A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-14A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-15A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-16A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-17A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-18A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-19A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-20A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-21A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-22A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-23A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-24A	Amber 100ml Hexane preserved	A	N/A	5.2	Y	Absent	PCB-8082-3540C(14)
L1300015-25A	Amber 120ml unpreserved	A	N/A	5.2	Y	Absent	PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1300015
Project Number:	18536	**Report Date:**	01/08/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1300015

Project Number: 18536 **Report Date:** 01/08/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1300015
Project Number: 18536 **Report Date:** 01/08/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

ALPHA JOB # L1300015

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 1/2/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18536

The cost of this analysis will be covered by EH&E Purchase Order # 18536

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
142194	Wipe	PCB's EPA 8082 with Soxhlet Extraction	12/28/12
142195			
142196			
142197			
142198			
142199			
142200			
142201			
142202			
142203			
142204			
142205			
142206			
142207			
142208			
142209			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient ttruong@eheinc.com; mfrangiale@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: [signature] of Environmental Health & Engineering, Inc. Date: 1/2/13

Received by: [signature] of (company name) EH&E Date: 1/2/13

Relinquished by: [signature] of (company name) EH&E Date: 1/2/13

Received by: [signature] of (company name) Alpha Date: 1/2/13 10:30

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

ALPHA Job # L1300015

DATE: 1/2/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha

Please send invoices to ATTN: Accounts Payable
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In all correspondence regarding this matter, please refer to EH&E Project # 18536

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For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
142210	Wipe	PCB's EPA 8082 with Soxhlet Extraction	12/28/12
142211			
142212			
142213			
142214			
142215			
142216			
142217			
142218	Caulk		

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient ttruong@eheinc.com; mfragata@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: Tim Tang of Environmental Health & Engineering, Inc. Date: 1/2/13

Received by: [signature] of (company name) EH & E Date: 1/2/13

Relinquished by: [signature] of (company name) EH & E Date: 1/2/13

Received by: [signature] of (company name) Alpha Date: 1/2/13 10:30

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 2 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

ANALYTICAL REPORT

Lab Number:	L1300321
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Wayne Carlson
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	18633
Report Date:	01/14/13

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

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: Not Specified
Project Number: 18633

Lab Number: L1300321
Report Date: 01/14/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1300321-01	142113	Not Specified	01/07/13 00:00
L1300321-02	142114	Not Specified	01/07/13 00:00
L1300321-03	142115	Not Specified	01/07/13 00:00
L1300321-04	142116	Not Specified	01/07/13 00:00
L1300321-05	142117	Not Specified	01/07/13 00:00

Project Name: Not Specified
Project Number: 18633

Lab Number: L1300321
Report Date: 01/14/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: Not Specified **Lab Number:** L1300321
Project Number: 18633 **Report Date:** 01/14/13

Case Narrative (continued)

PCBs

L1300321-01 through -05 have elevated detection limits due to the dilutions required by matrix interferences encountered during the concentration of the samples and the limited sample volume available for analysis.

The surrogate recoveries for L1300321-02, -03, and -04 are below the individual acceptance criteria for Decachlorobiphenyl (all 0%), but within the overall method allowances. The low recoveries are atttributed to the sample matrices and the target compounds show good correlation between the two columns. The results of the original analyses are reported.

The surrogate recoveries for L1300321-05 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (all 0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 01/14/13

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 18633
Lab Number: L1300321
Report Date: 01/14/13

SAMPLE RESULTS

Lab ID:	L1300321-01	Date Collected:	01/07/13 00:00
Client ID:	142113	Date Received:	01/08/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Caulk	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/10/13 18:17
Analytical Date:	01/14/13 06:18	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	01/11/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/11/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	588	--	4
Aroclor 1221	ND		ug/kg	588	--	4
Aroclor 1232	ND		ug/kg	588	--	4
Aroclor 1242	ND		ug/kg	588	--	4
Aroclor 1248	ND		ug/kg	392	--	4
Aroclor 1254	13000		ug/kg	588	--	4
Aroclor 1260	ND		ug/kg	392	--	4
Aroclor 1262	ND		ug/kg	196	--	4
Aroclor 1268	ND		ug/kg	196	--	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	60		30-150
Decachlorobiphenyl	55		30-150
2,4,5,6-Tetrachloro-m-xylene	57		30-150
Decachlorobiphenyl	70		30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1300321
Report Date: 01/14/13

SAMPLE RESULTS

Lab ID:	L1300321-02	Date Collected:	01/07/13 00:00
Client ID:	142114	Date Received:	01/08/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Caulk	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/10/13 18:17
Analytical Date:	01/14/13 06:33	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	01/11/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/11/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	538	--	4
Aroclor 1221	ND		ug/kg	538	--	4
Aroclor 1232	ND		ug/kg	538	--	4
Aroclor 1242	ND		ug/kg	538	--	4
Aroclor 1248	ND		ug/kg	359	--	4
Aroclor 1254	12400		ug/kg	538	--	4
Aroclor 1260	ND		ug/kg	359	--	4
Aroclor 1262	ND		ug/kg	179	--	4
Aroclor 1268	ND		ug/kg	179	--	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	46		30-150
Decachlorobiphenyl	111		30-150
2,4,5,6-Tetrachloro-m-xylene	50		30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1300321
Report Date: 01/14/13

SAMPLE RESULTS

Lab ID:	L1300321-03	Date Collected:	01/07/13 00:00
Client ID:	142115	Date Received:	01/08/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Caulk	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/10/13 18:17
Analytical Date:	01/14/13 06:47	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	01/11/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/11/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	582	--	4
Aroclor 1221	ND		ug/kg	582	--	4
Aroclor 1232	ND		ug/kg	582	--	4
Aroclor 1242	ND		ug/kg	582	--	4
Aroclor 1248	ND		ug/kg	388	--	4
Aroclor 1260	ND		ug/kg	388	--	4
Aroclor 1262	ND		ug/kg	194	--	4
Aroclor 1268	ND		ug/kg	194	--	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	54		30-150
Decachlorobiphenyl	128		30-150
2,4,5,6-Tetrachloro-m-xylene	59		30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1300321
Report Date: 01/14/13

SAMPLE RESULTS

Lab ID:	L1300321-03	Date Collected:	01/07/13 00:00
Client ID:	142115	Date Received:	01/08/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Caulk	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/10/13 18:17
Analytical Date:	01/14/13 06:47	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	01/11/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/11/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	5800		ug/kg	582	--	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	54		30-150
Decachlorobiphenyl	128		30-150
2,4,5,6-Tetrachloro-m-xylene	59		30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1300321
Report Date: 01/14/13

SAMPLE RESULTS

Lab ID:	L1300321-04	Date Collected:	01/07/13 00:00
Client ID:	142116	Date Received:	01/08/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Caulk	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/10/13 18:17
Analytical Date:	01/14/13 07:01	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	01/11/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/11/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	580	--	4
Aroclor 1221	ND		ug/kg	580	--	4
Aroclor 1232	ND		ug/kg	580	--	4
Aroclor 1242	ND		ug/kg	580	--	4
Aroclor 1248	ND		ug/kg	386	--	4
Aroclor 1260	ND		ug/kg	386	--	4
Aroclor 1262	ND		ug/kg	193	--	4
Aroclor 1268	ND		ug/kg	193	--	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	44		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	47		30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1300321
Report Date: 01/14/13

SAMPLE RESULTS

Lab ID:	L1300321-04	Date Collected:	01/07/13 00:00
Client ID:	142116	Date Received:	01/08/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Caulk	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/10/13 18:17
Analytical Date:	01/14/13 07:01	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	01/11/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/11/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	4840		ug/kg	580	--	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	44		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	47		30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1300321
Report Date: 01/14/13

SAMPLE RESULTS

Lab ID:	L1300321-05	Date Collected:	01/07/13 00:00
Client ID:	142117	Date Received:	01/08/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Caulk	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	01/10/13 18:17
Analytical Date:	01/14/13 07:14	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	01/11/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/11/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1200	--	10
Aroclor 1221	ND		ug/kg	1200	--	10
Aroclor 1232	ND		ug/kg	1200	--	10
Aroclor 1242	ND		ug/kg	1200	--	10
Aroclor 1248	ND		ug/kg	800	--	10
Aroclor 1254	10300		ug/kg	1200	--	10
Aroclor 1260	ND		ug/kg	800	--	10
Aroclor 1262	ND		ug/kg	400	--	10
Aroclor 1268	ND		ug/kg	400	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified

Project Number: 18633

Lab Number: L1300321

Report Date: 01/14/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 01/11/13 14:10
Analyst: JW

Extraction Method: EPA 3540C
Extraction Date: 01/10/13 18:17
Cleanup Method1: EPA 3665A
Cleanup Date1: 01/11/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 01/11/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 01-05 Batch: WG583995-1					
Aroclor 1016	ND		ug/kg	57.6	--
Aroclor 1221	ND		ug/kg	57.6	--
Aroclor 1232	ND		ug/kg	57.6	--
Aroclor 1242	ND		ug/kg	57.6	--
Aroclor 1248	ND		ug/kg	38.4	--
Aroclor 1254	ND		ug/kg	57.6	--
Aroclor 1260	ND		ug/kg	38.4	--
Aroclor 1262	ND		ug/kg	19.2	--
Aroclor 1268	ND		ug/kg	19.2	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	64		30-150
Decachlorobiphenyl	75		30-150
2,4,5,6-Tetrachloro-m-xylene	64		30-150
Decachlorobiphenyl	100		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: 18633

Lab Number: L1300321

Report Date: 01/14/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 01-05 Batch: WG583995-2 WG583995-3								
Aroclor 1016	72		81		40-140	12		50
Aroclor 1260	71		82		40-140	14		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	70		77		30-150
Decachlorobiphenyl	79		86		30-150
2,4,5,6-Tetrachloro-m-xylene	74		76		30-150
Decachlorobiphenyl	105		112		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1300321
Report Date: 01/14/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1300321-01A	Amber 100ml unpreserved	A	N/A	3.0	Y	Absent	PCB-8082LL-3540C(14)
L1300321-02A	Amber 100ml unpreserved	A	N/A	3.0	Y	Absent	PCB-8082LL-3540C(14)
L1300321-03A	Amber 100ml unpreserved	A	N/A	3.0	Y	Absent	PCB-8082LL-3540C(14)
L1300321-04A	Amber 100ml unpreserved	A	N/A	3.0	Y	Absent	PCB-8082LL-3540C(14)
L1300321-05A	Amber 100ml unpreserved	A	N/A	3.0	Y	Absent	PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1300321
Project Number:	18633	**Report Date:**	01/14/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1300321

Project Number: 18633 **Report Date:** 01/14/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1300321
Project Number: 18633 **Report Date:** 01/14/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

L1300321

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 1/7/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: ALPHA ANALYTICAL

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18633

The cost of this analysis will be covered by EH&E Purchase Order # 18633

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
142113	BULK	PCB ANALYSIS, EPA 8082 w/SOXHLET EXTRACTION	1/7/13
142114	↓	↓	
142115			
142116			
142117			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient WCARLSON@EHEINC.COM

Each signatory please return one copy of this form to the above address

Relinquished by: W Carlson of Environmental Health & Engineering, Inc. Date: 1/8/13

Received by: [signature] of (company name) Alpha Date: 1/8/13 10:17

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

ANALYTICAL REPORT

Lab Number:	L1308521
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	18633
Report Date:	05/20/13

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

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1308521-01	145136	NEEDHAM, MA	05/11/13 00:00
L1308521-02	145137	NEEDHAM, MA	05/11/13 00:00
L1308521-03	145138	NEEDHAM, MA	05/11/13 00:00
L1308521-04	145139	NEEDHAM, MA	05/11/13 00:00
L1308521-05	145140	NEEDHAM, MA	05/11/13 00:00
L1308521-06	145141	NEEDHAM, MA	05/11/13 00:00
L1308521-07	145142	NEEDHAM, MA	05/11/13 00:00
L1308521-08	145143	NEEDHAM, MA	05/11/13 00:00
L1308521-09	145144	NEEDHAM, MA	05/11/13 00:00
L1308521-10	145145	NEEDHAM, MA	05/11/13 00:00
L1308521-11	145146	NEEDHAM, MA	05/11/13 00:00
L1308521-12	145147	NEEDHAM, MA	05/11/13 00:00
L1308521-13	145148	NEEDHAM, MA	05/11/13 00:00
L1308521-14	145149	NEEDHAM, MA	05/11/13 00:00
L1308521-15	145150	NEEDHAM, MA	05/11/13 00:00
L1308521-16	145151	NEEDHAM, MA	05/11/13 00:00
L1308521-17	145152	NEEDHAM, MA	05/11/13 00:00
L1308521-18	145153	NEEDHAM, MA	05/11/13 00:00
L1308521-19	145154	NEEDHAM, MA	05/11/13 00:00
L1308521-20	145155	NEEDHAM, MA	05/11/13 00:00
L1308521-21	145156	NEEDHAM, MA	05/11/13 00:00
L1308521-22	145157	NEEDHAM, MA	05/11/13 00:00
L1308521-23	145158	NEEDHAM, MA	05/11/13 00:00
L1308521-24	145159	NEEDHAM, MA	05/11/13 00:00
L1308521-25	145160	NEEDHAM, MA	05/11/13 00:00
L1308521-26	145161	NEEDHAM, MA	05/11/13 00:00
L1308521-27	145162	NEEDHAM, MA	05/11/13 00:00
L1308521-28	145163	NEEDHAM, MA	05/11/13 00:00
L1308521-29	145164	NEEDHAM, MA	05/11/13 00:00
L1308521-30	145165	NEEDHAM, MA	05/11/13 00:00

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: Not Specified **Lab Number:** L1308521
Project Number: 18633 **Report Date:** 05/20/13

Case Narrative (continued)

PCBs

The surrogate recoveries for L1308521-05 through -27 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (all 0%) due to the dilutions required to quantitate the samples. Re-extraction was not required; therefore, the results of the original analyses are reported.

L1308521-28 has elevated detection limits due to limited sample volume available for analysis.

L1308521-29 and -30 contain peaks which match the retention times for Aroclor 1254, but do not match the area ratios typical for this aroclor. The results for Aroclor 1254 are reported as "weathered".

L1308521-30 has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

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

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative Date: 05/20/13

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-01	Date Collected:	05/11/13 00:00
Client ID:	145136	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 19:53
Analytical Date:	05/18/13 10:51	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/16/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	56.5	--	1
Aroclor 1221	ND		ug/kg	56.5	--	1
Aroclor 1232	ND		ug/kg	56.5	--	1
Aroclor 1242	ND		ug/kg	56.5	--	1
Aroclor 1248	ND		ug/kg	37.7	--	1
Aroclor 1254	ND		ug/kg	56.5	--	1
Aroclor 1260	ND		ug/kg	37.7	--	1
Aroclor 1262	ND		ug/kg	18.8	--	1
Aroclor 1268	ND		ug/kg	18.8	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	51		30-150
Decachlorobiphenyl	48		30-150
2,4,5,6-Tetrachloro-m-xylene	47		30-150
Decachlorobiphenyl	47		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-02	Date Collected:	05/11/13 00:00
Client ID:	145137	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 19:53
Analytical Date:	05/18/13 11:04	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/16/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	52.7	--	1
Aroclor 1221	ND		ug/kg	52.7	--	1
Aroclor 1232	ND		ug/kg	52.7	--	1
Aroclor 1242	ND		ug/kg	52.7	--	1
Aroclor 1248	ND		ug/kg	35.1	--	1
Aroclor 1254	160		ug/kg	52.7	--	1
Aroclor 1260	ND		ug/kg	35.1	--	1
Aroclor 1262	ND		ug/kg	17.6	--	1
Aroclor 1268	ND		ug/kg	17.6	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	86		30-150
Decachlorobiphenyl	84		30-150
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	77		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-03	Date Collected:	05/11/13 00:00
Client ID:	145138	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 19:53
Analytical Date:	05/18/13 11:17	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/16/13
Percent Solids:	98%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	53.6	--	1
Aroclor 1221	ND		ug/kg	53.6	--	1
Aroclor 1232	ND		ug/kg	53.6	--	1
Aroclor 1242	ND		ug/kg	53.6	--	1
Aroclor 1248	ND		ug/kg	35.8	--	1
Aroclor 1254	ND		ug/kg	53.6	--	1
Aroclor 1260	ND		ug/kg	35.8	--	1
Aroclor 1262	ND		ug/kg	17.9	--	1
Aroclor 1268	ND		ug/kg	17.9	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	55		30-150
Decachlorobiphenyl	55		30-150
2,4,5,6-Tetrachloro-m-xylene	63		30-150
Decachlorobiphenyl	65		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-04	Date Collected:	05/11/13 00:00
Client ID:	145139	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 19:53
Analytical Date:	05/18/13 11:30	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/16/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	53.1	--	1
Aroclor 1221	ND		ug/kg	53.1	--	1
Aroclor 1232	ND		ug/kg	53.1	--	1
Aroclor 1242	ND		ug/kg	53.1	--	1
Aroclor 1248	ND		ug/kg	35.4	--	1
Aroclor 1254	ND		ug/kg	53.1	--	1
Aroclor 1260	ND		ug/kg	35.4	--	1
Aroclor 1262	ND		ug/kg	17.7	--	1
Aroclor 1268	ND		ug/kg	17.7	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	79		30-150
Decachlorobiphenyl	74		30-150
2,4,5,6-Tetrachloro-m-xylene	77		30-150
Decachlorobiphenyl	75		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-05	D	Date Collected:	05/11/13 00:00
Client ID:	145140		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 11:06		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1040	--	20
Aroclor 1221	ND		ug/kg	1040	--	20
Aroclor 1232	ND		ug/kg	1040	--	20
Aroclor 1242	ND		ug/kg	1040	--	20
Aroclor 1248	ND		ug/kg	691	--	20
Aroclor 1254	18200		ug/kg	1040	--	20
Aroclor 1260	ND		ug/kg	691	--	20
Aroclor 1262	ND		ug/kg	345	--	20
Aroclor 1268	ND		ug/kg	345	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-06	D	Date Collected:	05/11/13 00:00
Client ID:	145141		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 12:34		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1010	--	20
Aroclor 1221	ND		ug/kg	1010	--	20
Aroclor 1232	ND		ug/kg	1010	--	20
Aroclor 1242	ND		ug/kg	1010	--	20
Aroclor 1248	ND		ug/kg	676	--	20
Aroclor 1260	ND		ug/kg	676	--	20
Aroclor 1262	ND		ug/kg	338	--	20
Aroclor 1268	ND		ug/kg	338	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-06	D	Date Collected:	05/11/13 00:00
Client ID:	145141		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 12:34		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	14900		ug/kg	1010	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-07	D	Date Collected:	05/11/13 00:00
Client ID:	145142		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 08:02		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	518	--	10
Aroclor 1221	ND		ug/kg	518	--	10
Aroclor 1232	ND		ug/kg	518	--	10
Aroclor 1242	ND		ug/kg	518	--	10
Aroclor 1248	ND		ug/kg	345	--	10
Aroclor 1254	9680		ug/kg	518	--	10
Aroclor 1260	ND		ug/kg	345	--	10
Aroclor 1262	ND		ug/kg	172	--	10
Aroclor 1268	ND		ug/kg	172	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-08	D	Date Collected:	05/11/13 00:00
Client ID:	145143		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 08:15		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	519	--	10
Aroclor 1221	ND		ug/kg	519	--	10
Aroclor 1232	ND		ug/kg	519	--	10
Aroclor 1242	ND		ug/kg	519	--	10
Aroclor 1248	ND		ug/kg	346	--	10
Aroclor 1254	6630		ug/kg	519	--	10
Aroclor 1260	ND		ug/kg	346	--	10
Aroclor 1262	ND		ug/kg	173	--	10
Aroclor 1268	ND		ug/kg	173	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-09	D	Date Collected:	05/11/13 00:00
Client ID:	145144		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 08:28		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	523	--	10
Aroclor 1221	ND		ug/kg	523	--	10
Aroclor 1232	ND		ug/kg	523	--	10
Aroclor 1242	ND		ug/kg	523	--	10
Aroclor 1248	ND		ug/kg	348	--	10
Aroclor 1254	8400		ug/kg	523	--	10
Aroclor 1260	ND		ug/kg	348	--	10
Aroclor 1262	ND		ug/kg	174	--	10
Aroclor 1268	ND		ug/kg	174	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-10	D	Date Collected:	05/11/13 00:00
Client ID:	145145		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 08:42		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	521	--	10
Aroclor 1221	ND		ug/kg	521	--	10
Aroclor 1232	ND		ug/kg	521	--	10
Aroclor 1242	ND		ug/kg	521	--	10
Aroclor 1248	ND		ug/kg	348	--	10
Aroclor 1254	9590		ug/kg	521	--	10
Aroclor 1260	ND		ug/kg	348	--	10
Aroclor 1262	ND		ug/kg	174	--	10
Aroclor 1268	ND		ug/kg	174	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-11	D	Date Collected:	05/11/13 00:00
Client ID:	145146		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 08:55		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	561	--	10
Aroclor 1221	ND		ug/kg	561	--	10
Aroclor 1232	ND		ug/kg	561	--	10
Aroclor 1242	ND		ug/kg	561	--	10
Aroclor 1248	ND		ug/kg	374	--	10
Aroclor 1254	9800		ug/kg	561	--	10
Aroclor 1260	ND		ug/kg	374	--	10
Aroclor 1262	ND		ug/kg	187	--	10
Aroclor 1268	ND		ug/kg	187	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-12	D	Date Collected:	05/11/13 00:00
Client ID:	145147		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 09:08		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	539	--	10
Aroclor 1221	ND		ug/kg	539	--	10
Aroclor 1232	ND		ug/kg	539	--	10
Aroclor 1242	ND		ug/kg	539	--	10
Aroclor 1248	ND		ug/kg	360	--	10
Aroclor 1254	8020		ug/kg	539	--	10
Aroclor 1260	ND		ug/kg	360	--	10
Aroclor 1262	ND		ug/kg	180	--	10
Aroclor 1268	ND		ug/kg	180	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-13	D	Date Collected:	05/11/13 00:00
Client ID:	145148		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 09:21		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	527	--	10
Aroclor 1221	ND		ug/kg	527	--	10
Aroclor 1232	ND		ug/kg	527	--	10
Aroclor 1242	ND		ug/kg	527	--	10
Aroclor 1248	ND		ug/kg	352	--	10
Aroclor 1254	14800		ug/kg	527	--	10
Aroclor 1260	ND		ug/kg	352	--	10
Aroclor 1262	ND		ug/kg	176	--	10
Aroclor 1268	ND		ug/kg	176	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-14	D	Date Collected:	05/11/13 00:00
Client ID:	145149		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 09:34		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	536	--	10
Aroclor 1221	ND		ug/kg	536	--	10
Aroclor 1232	ND		ug/kg	536	--	10
Aroclor 1242	ND		ug/kg	536	--	10
Aroclor 1248	ND		ug/kg	357	--	10
Aroclor 1254	14000		ug/kg	536	--	10
Aroclor 1260	ND		ug/kg	357	--	10
Aroclor 1262	ND		ug/kg	179	--	10
Aroclor 1268	ND		ug/kg	179	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-15	D	Date Collected:	05/11/13 00:00
Client ID:	145150		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 12:46		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1050	--	20
Aroclor 1221	ND		ug/kg	1050	--	20
Aroclor 1232	ND		ug/kg	1050	--	20
Aroclor 1242	ND		ug/kg	1050	--	20
Aroclor 1248	ND		ug/kg	701	--	20
Aroclor 1260	ND		ug/kg	701	--	20
Aroclor 1262	ND		ug/kg	350	--	20
Aroclor 1268	ND		ug/kg	350	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-15	D	Date Collected:	05/11/13 00:00
Client ID:	145150		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 12:46		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	15700		ug/kg	1050	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-16	D	Date Collected:	05/11/13 00:00
Client ID:	145151		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 12:59		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1030	--	20
Aroclor 1221	ND		ug/kg	1030	--	20
Aroclor 1232	ND		ug/kg	1030	--	20
Aroclor 1242	ND		ug/kg	1030	--	20
Aroclor 1248	ND		ug/kg	684	--	20
Aroclor 1260	ND		ug/kg	684	--	20
Aroclor 1262	ND		ug/kg	342	--	20
Aroclor 1268	ND		ug/kg	342	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-16	D	Date Collected:	05/11/13 00:00
Client ID:	145151		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 12:59		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	16700		ug/kg	1030	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-17	D	Date Collected:	05/11/13 00:00
Client ID:	145152		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 13:23		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1060	--	20
Aroclor 1221	ND		ug/kg	1060	--	20
Aroclor 1232	ND		ug/kg	1060	--	20
Aroclor 1242	ND		ug/kg	1060	--	20
Aroclor 1248	ND		ug/kg	707	--	20
Aroclor 1260	ND		ug/kg	707	--	20
Aroclor 1262	ND		ug/kg	353	--	20
Aroclor 1268	ND		ug/kg	353	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-17	D	Date Collected:	05/11/13 00:00
Client ID:	145152		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 13:23		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	20600		ug/kg	1060	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-18	D	Date Collected:	05/11/13 00:00
Client ID:	145153		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 13:35		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1040	--	20
Aroclor 1221	ND		ug/kg	1040	--	20
Aroclor 1232	ND		ug/kg	1040	--	20
Aroclor 1242	ND		ug/kg	1040	--	20
Aroclor 1248	ND		ug/kg	692	--	20
Aroclor 1260	ND		ug/kg	692	--	20
Aroclor 1262	ND		ug/kg	346	--	20
Aroclor 1268	ND		ug/kg	346	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-18	D	Date Collected:	05/11/13 00:00
Client ID:	145153		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 13:35		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	12500		ug/kg	1040	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-19	D	Date Collected:	05/11/13 00:00
Client ID:	145154		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 13:48		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1120	--	20
Aroclor 1221	ND		ug/kg	1120	--	20
Aroclor 1232	ND		ug/kg	1120	--	20
Aroclor 1242	ND		ug/kg	1120	--	20
Aroclor 1248	ND		ug/kg	749	--	20
Aroclor 1260	ND		ug/kg	749	--	20
Aroclor 1262	ND		ug/kg	375	--	20
Aroclor 1268	ND		ug/kg	375	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-19	D	Date Collected:	05/11/13 00:00
Client ID:	145154		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 13:48		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	12600		ug/kg	1120	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-20	D	Date Collected:	05/11/13 00:00
Client ID:	145155		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 19:53
Analytical Date:	05/20/13 10:53		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/16/13
Percent Solids:	100%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/16/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	511	--	10
Aroclor 1221	ND		ug/kg	511	--	10
Aroclor 1232	ND		ug/kg	511	--	10
Aroclor 1242	ND		ug/kg	511	--	10
Aroclor 1248	ND		ug/kg	341	--	10
Aroclor 1254	10500		ug/kg	511	--	10
Aroclor 1260	ND		ug/kg	341	--	10
Aroclor 1262	ND		ug/kg	170	--	10
Aroclor 1268	ND		ug/kg	170	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-21	D	Date Collected:	05/11/13 00:00
Client ID:	145156		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 14:36		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	534	--	10
Aroclor 1221	ND		ug/kg	534	--	10
Aroclor 1232	ND		ug/kg	534	--	10
Aroclor 1242	ND		ug/kg	534	--	10
Aroclor 1248	ND		ug/kg	356	--	10
Aroclor 1260	ND		ug/kg	356	--	10
Aroclor 1262	ND		ug/kg	178	--	10
Aroclor 1268	ND		ug/kg	178	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-21	D	Date Collected:	05/11/13 00:00
Client ID:	145156		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 14:36		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	15000		ug/kg	534	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-22	D	Date Collected:	05/11/13 00:00
Client ID:	145157		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 14:48		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	100%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	540	--	10
Aroclor 1221	ND		ug/kg	540	--	10
Aroclor 1232	ND		ug/kg	540	--	10
Aroclor 1242	ND		ug/kg	540	--	10
Aroclor 1248	ND		ug/kg	360	--	10
Aroclor 1260	ND		ug/kg	360	--	10
Aroclor 1262	ND		ug/kg	180	--	10
Aroclor 1268	ND		ug/kg	180	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-22	D	Date Collected:	05/11/13 00:00
Client ID:	145157		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 14:48		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	100%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	13000		ug/kg	540	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-23	D	Date Collected:	05/11/13 00:00
Client ID:	145158		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 15:00		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	516	--	10
Aroclor 1221	ND		ug/kg	516	--	10
Aroclor 1232	ND		ug/kg	516	--	10
Aroclor 1242	ND		ug/kg	516	--	10
Aroclor 1248	ND		ug/kg	344	--	10
Aroclor 1260	ND		ug/kg	344	--	10
Aroclor 1262	ND		ug/kg	172	--	10
Aroclor 1268	ND		ug/kg	172	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-23	D	Date Collected:	05/11/13 00:00
Client ID:	145158		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 15:00		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	12600		ug/kg	516	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-24	D	Date Collected:	05/11/13 00:00
Client ID:	145159		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 15:13		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	533	--	10
Aroclor 1221	ND		ug/kg	533	--	10
Aroclor 1232	ND		ug/kg	533	--	10
Aroclor 1242	ND		ug/kg	533	--	10
Aroclor 1248	ND		ug/kg	355	--	10
Aroclor 1260	ND		ug/kg	355	--	10
Aroclor 1262	ND		ug/kg	178	--	10
Aroclor 1268	ND		ug/kg	178	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-24	D	Date Collected:	05/11/13 00:00
Client ID:	145159		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 15:13		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	10900		ug/kg	533	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-25	D	Date Collected:	05/11/13 00:00
Client ID:	145160		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 15:25		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	526	--	10
Aroclor 1221	ND		ug/kg	526	--	10
Aroclor 1232	ND		ug/kg	526	--	10
Aroclor 1242	ND		ug/kg	526	--	10
Aroclor 1248	ND		ug/kg	351	--	10
Aroclor 1260	ND		ug/kg	351	--	10
Aroclor 1262	ND		ug/kg	175	--	10
Aroclor 1268	ND		ug/kg	175	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-25	D	Date Collected:	05/11/13 00:00
Client ID:	145160		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 15:25		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	9690		ug/kg	526	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-26	D	Date Collected:	05/11/13 00:00
Client ID:	145161		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 16:11		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1020	--	20
Aroclor 1221	ND		ug/kg	1020	--	20
Aroclor 1232	ND		ug/kg	1020	--	20
Aroclor 1242	ND		ug/kg	1020	--	20
Aroclor 1248	ND		ug/kg	679	--	20
Aroclor 1254	13900		ug/kg	1020	--	20
Aroclor 1260	ND		ug/kg	679	--	20
Aroclor 1262	ND		ug/kg	340	--	20
Aroclor 1268	ND		ug/kg	340	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-27	D	Date Collected:	05/11/13 00:00
Client ID:	145162		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 16:23		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	1060	--	20
Aroclor 1221	ND		ug/kg	1060	--	20
Aroclor 1232	ND		ug/kg	1060	--	20
Aroclor 1242	ND		ug/kg	1060	--	20
Aroclor 1248	ND		ug/kg	706	--	20
Aroclor 1260	ND		ug/kg	706	--	20
Aroclor 1262	ND		ug/kg	353	--	20
Aroclor 1268	ND		ug/kg	353	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-27	D	Date Collected:	05/11/13 00:00
Client ID:	145162		Date Received:	05/13/13
Sample Location:	NEEDHAM, MA		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/14/13 21:11
Analytical Date:	05/20/13 16:23		Cleanup Method1:	EPA 3665A
Analyst:	GT		Cleanup Date1:	05/17/13
Percent Solids:	99%		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	14400		ug/kg	1060	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-28	Date Collected:	05/11/13 00:00
Client ID:	145163	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 06:02	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	93%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	194	--	1
Aroclor 1221	ND		ug/kg	194	--	1
Aroclor 1232	ND		ug/kg	194	--	1
Aroclor 1242	ND		ug/kg	194	--	1
Aroclor 1248	ND		ug/kg	130	--	1
Aroclor 1254	274		ug/kg	194	--	1
Aroclor 1260	ND		ug/kg	130	--	1
Aroclor 1262	ND		ug/kg	64.8	--	1
Aroclor 1268	ND		ug/kg	64.8	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	82		30-150
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	92		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-29	Date Collected:	05/11/13 00:00
Client ID:	145164	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 07:04	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	93%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	98.6	--	1
Aroclor 1221	ND		ug/kg	98.6	--	1
Aroclor 1232	ND		ug/kg	98.6	--	1
Aroclor 1242	ND		ug/kg	98.6	--	1
Aroclor 1248	ND		ug/kg	65.7	--	1
Aroclor 1260	ND		ug/kg	65.7	--	1
Aroclor 1262	ND		ug/kg	32.8	--	1
Aroclor 1268	ND		ug/kg	32.8	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	78		30-150
2,4,5,6-Tetrachloro-m-xylene	72		30-150
Decachlorobiphenyl	80		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-29	Date Collected:	05/11/13 00:00
Client ID:	145164	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 07:04	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	93%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	596		ug/kg	98.6	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	78		30-150
2,4,5,6-Tetrachloro-m-xylene	72		30-150
Decachlorobiphenyl	80		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-30	Date Collected:	05/11/13 00:00
Client ID:	145165	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 07:16	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	94%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	126	--	2
Aroclor 1221	ND		ug/kg	126	--	2
Aroclor 1232	ND		ug/kg	126	--	2
Aroclor 1242	ND		ug/kg	126	--	2
Aroclor 1248	ND		ug/kg	83.9	--	2
Aroclor 1260	ND		ug/kg	83.9	--	2
Aroclor 1262	ND		ug/kg	41.9	--	2
Aroclor 1268	ND		ug/kg	41.9	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	68		30-150
Decachlorobiphenyl	73		30-150
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	75		30-150

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308521-30	Date Collected:	05/11/13 00:00
Client ID:	145165	Date Received:	05/13/13
Sample Location:	NEEDHAM, MA	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 07:16	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	94%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	2030		ug/kg	126	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	68		30-150
Decachlorobiphenyl	73		30-150
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	75		30-150

Project Name: Not Specified

Project Number: 18633

Lab Number: L1308521

Report Date: 05/20/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 05/18/13 14:34
Analyst: GT

Extraction Method: EPA 3540C
Extraction Date: 05/14/13 19:53
Cleanup Method1: EPA 3665A
Cleanup Date1: 05/16/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 05/16/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 01-20 Batch: WG607991-1					
Aroclor 1016	ND		ug/kg	55.8	--
Aroclor 1221	ND		ug/kg	55.8	--
Aroclor 1232	ND		ug/kg	55.8	--
Aroclor 1242	ND		ug/kg	55.8	--
Aroclor 1248	ND		ug/kg	37.2	--
Aroclor 1254	ND		ug/kg	55.8	--
Aroclor 1260	ND		ug/kg	37.2	--
Aroclor 1262	ND		ug/kg	18.6	--
Aroclor 1268	ND		ug/kg	18.6	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	93		30-150
Decachlorobiphenyl	87		30-150
2,4,5,6-Tetrachloro-m-xylene	95		30-150
Decachlorobiphenyl	86		30-150

Project Name: Not Specified

Project Number: 18633

Lab Number: L1308521

Report Date: 05/20/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 05/19/13 06:15
Analyst: GT

Extraction Method: EPA 3540C
Extraction Date: 05/14/13 21:11
Cleanup Method1: EPA 3665A
Cleanup Date1: 05/17/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 05/17/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 21-30 Batch: WG607993-1					
Aroclor 1016	ND		ug/kg	56.3	--
Aroclor 1221	ND		ug/kg	56.3	--
Aroclor 1232	ND		ug/kg	56.3	--
Aroclor 1242	ND		ug/kg	56.3	--
Aroclor 1248	ND		ug/kg	37.5	--
Aroclor 1254	ND		ug/kg	56.3	--
Aroclor 1260	ND		ug/kg	37.5	--
Aroclor 1262	ND		ug/kg	18.8	--
Aroclor 1268	ND		ug/kg	18.8	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	86		30-150
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	93		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18633
Lab Number: L1308521
Report Date: 05/20/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 01-20 Batch: WG607991-2 WG607991-3								
Aroclor 1016	90		73		40-140	21		50
Aroclor 1260	80		62		40-140	25		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	95		74		30-150
Decachlorobiphenyl	87		67		30-150
2,4,5,6-Tetrachloro-m-xylene	96		75		30-150
Decachlorobiphenyl	86		67		30-150

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 21-30 Batch: WG607993-2 WG607993-3								
Aroclor 1016	73		73		40-140	0		50
Aroclor 1260	82		79		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		72		30-150
Decachlorobiphenyl	85		88		30-150
2,4,5,6-Tetrachloro-m-xylene	68		74		30-150
Decachlorobiphenyl	91		97		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-01
Client ID: 145136
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.0		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-02
Client ID: 145137
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.5		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-03
Client ID: 145138
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	97.8		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-04
Client ID: 145139
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.5		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-05
Client ID: 145140
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-06
Client ID: 145141
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-07
Client ID: 145142
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-08
Client ID: 145143
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-09
Client ID: 145144
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-10
Client ID: 145145
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-11
Client ID: 145146
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-12
Client ID: 145147
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-13
Client ID: 145148
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-14
Client ID: 145149
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-15
Client ID: 145150
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:24	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-16
Client ID: 145151
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.2		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-17
Client ID: 145152
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-18
Client ID: 145153
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-19
Client ID: 145154
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-20
Client ID: 145155
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.5		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-21
Client ID: 145156
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-22
Client ID: 145157
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.5		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-23
Client ID: 145158
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-24
Client ID: 145159
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-25
Client ID: 145160
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.2		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-26
Client ID: 145161
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-27
Client ID: 145162
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-28
Client ID: 145163
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.9		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-29
Client ID: 145164
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.8		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308521-30
Client ID: 145165
Sample Location: NEEDHAM, MA
Matrix: Solid

Date Collected: 05/11/13 00:00
Date Received: 05/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.7		%	0.100	NA	1	-	05/14/13 12:49	30,2540G	MO

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG607892-1 QC Sample: L1308521-01 Client ID: 145136						
Solids, Total	99.0	98.9	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 16-30 QC Batch ID: WG607899-1 QC Sample: L1308521-16 Client ID: 145151						
Solids, Total	99.2	99.2	%	0		20

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
C	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1308521-01A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-02A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-03A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-04A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-05A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-06A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-07A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-08A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-09A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-10A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-11A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-12A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-13A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-14A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-15A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-16A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-17A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-18A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-19A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-20A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-21A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-22A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-23A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-24A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-25A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-26A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-27A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308521
Report Date: 05/20/13

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1308521-28A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-29A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308521-30A	Amber 120ml unpreserved	C	N/A	4.2	Y	Absent	TS(7),PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1308521
Project Number:	18633	**Report Date:**	05/20/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1308521

Project Number: 18633 **Report Date:** 05/20/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1308521
Project Number: 18633 **Report Date:** 05/20/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

L1308571

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 5/13/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18633

The cost of this analysis will be covered by EH&E Purchase Order # 18633

For EH & E Data Coordinator - URGENT DATA ☐

08571	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
-01	145136	Bulk	EPA 8082 PCBs w/ Soxhlet Extraction	5/11/13
-02	145137			
-03	145138			
-04	145139			
-05	145140			
-06	145141			
-07	145142			
-08	145143			
-09	145144			
-10	145145			
-11	145146			
-12	145147			
-13	145148			
-14	145149			
-15	145150			
-16	145151			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient ttruong@eheinc.com ; mfragala@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: Tu Truong of Environmental Health & Engineering, Inc. Date: 5/13/13

Received by: [signature] of (company name) EHE Date: 5/13/13

Relinquished by: [signature] of (company name) EHE Date: 5/13/13

Received by: [signature] of (company name) Alpha Date: 5/13/13 1630

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

L1308521

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 5/13/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18633

The cost of this analysis will be covered by EH&E Purchase Order # 18633

For EH & E Data Coordinator - URGENT DATA ☐

08521	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
-17	145152	Bulk	EPA 8082 PCBs w/ Soxhlet Extraction	5/11/13
-18	145153			
-19	145154			
-20	145155			
-21	145156			
-22	145157			
-23	145158			
-24	145159			
-25	145160			
-26	145161			
-27	145162			
-28	145163			
-29	145164			
-30	145165			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient _____

Each signatory please return one copy of this form to the above address

Relinquished by: [signature] of Environmental Health & Engineering, Inc. Date: 5/13/13

Received by: [signature] of (company name) EHE Date: 5/13/13

Relinquished by: [signature] of (company name) EHE Date: 5/13/13

Received by: [signature] of (company name) Alpha Date: 5/13/13 1630

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 2 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

ANALYTICAL REPORT

Lab Number:	L1308550
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	18633
Report Date:	05/20/13

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

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1308550-01	145166	Not Specified	05/13/13 00:00
L1308550-02	145167	Not Specified	05/13/13 00:00
L1308550-03	145168	Not Specified	05/13/13 00:00
L1308550-04	145169	Not Specified	05/13/13 00:00
L1308550-05	145170	Not Specified	05/13/13 00:00
L1308550-06	145171	Not Specified	05/13/13 00:00
L1308550-07	145172	Not Specified	05/13/13 00:00
L1308550-08	145173	Not Specified	05/13/13 00:00
L1308550-09	145174	Not Specified	05/13/13 00:00

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

Case Narrative (continued)

Sample Receipt

The sample collection dates were supplied by the client.

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

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative

Date: 05/20/13

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-01	Date Collected:	05/13/13 00:00
Client ID:	145166	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 02:46	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	51.4	--	1
Aroclor 1221	ND		ug/kg	51.4	--	1
Aroclor 1232	ND		ug/kg	51.4	--	1
Aroclor 1242	ND		ug/kg	51.4	--	1
Aroclor 1248	ND		ug/kg	34.2	--	1
Aroclor 1254	ND		ug/kg	51.4	--	1
Aroclor 1260	ND		ug/kg	34.2	--	1
Aroclor 1262	ND		ug/kg	17.1	--	1
Aroclor 1268	ND		ug/kg	17.1	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	91		30-150
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	95		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-02	Date Collected:	05/13/13 00:00
Client ID:	145167	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 02:58	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	54.1	--	1
Aroclor 1221	ND		ug/kg	54.1	--	1
Aroclor 1232	ND		ug/kg	54.1	--	1
Aroclor 1242	ND		ug/kg	54.1	--	1
Aroclor 1248	ND		ug/kg	36.0	--	1
Aroclor 1254	ND		ug/kg	54.1	--	1
Aroclor 1260	ND		ug/kg	36.0	--	1
Aroclor 1262	ND		ug/kg	18.0	--	1
Aroclor 1268	ND		ug/kg	18.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	81		30-150
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	90		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-03	Date Collected:	05/13/13 00:00
Client ID:	145168	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 03:10	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	51.2	--	1
Aroclor 1221	ND		ug/kg	51.2	--	1
Aroclor 1232	ND		ug/kg	51.2	--	1
Aroclor 1242	ND		ug/kg	51.2	--	1
Aroclor 1248	ND		ug/kg	34.2	--	1
Aroclor 1254	ND		ug/kg	51.2	--	1
Aroclor 1260	ND		ug/kg	34.2	--	1
Aroclor 1262	ND		ug/kg	17.1	--	1
Aroclor 1268	ND		ug/kg	17.1	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	93		30-150
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	94		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-04	Date Collected:	05/13/13 00:00
Client ID:	145169	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 03:23	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	100%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	51.0	--	1
Aroclor 1221	ND		ug/kg	51.0	--	1
Aroclor 1232	ND		ug/kg	51.0	--	1
Aroclor 1242	ND		ug/kg	51.0	--	1
Aroclor 1248	ND		ug/kg	34.0	--	1
Aroclor 1254	ND		ug/kg	51.0	--	1
Aroclor 1260	ND		ug/kg	34.0	--	1
Aroclor 1262	ND		ug/kg	17.0	--	1
Aroclor 1268	ND		ug/kg	17.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	84		30-150
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	87		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-05	Date Collected:	05/13/13 00:00
Client ID:	145170	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 03:35	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	51.4	--	1
Aroclor 1221	ND		ug/kg	51.4	--	1
Aroclor 1232	ND		ug/kg	51.4	--	1
Aroclor 1242	ND		ug/kg	51.4	--	1
Aroclor 1248	ND		ug/kg	34.3	--	1
Aroclor 1254	ND		ug/kg	51.4	--	1
Aroclor 1260	ND		ug/kg	34.3	--	1
Aroclor 1262	ND		ug/kg	17.1	--	1
Aroclor 1268	ND		ug/kg	17.1	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	60		30-150
Decachlorobiphenyl	83		30-150
2,4,5,6-Tetrachloro-m-xylene	61		30-150
Decachlorobiphenyl	85		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-06	Date Collected:	05/13/13 00:00
Client ID:	145171	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 03:47	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	53.0	--	1
Aroclor 1221	ND		ug/kg	53.0	--	1
Aroclor 1232	ND		ug/kg	53.0	--	1
Aroclor 1242	ND		ug/kg	53.0	--	1
Aroclor 1248	ND		ug/kg	35.4	--	1
Aroclor 1254	ND		ug/kg	53.0	--	1
Aroclor 1260	ND		ug/kg	35.4	--	1
Aroclor 1262	ND		ug/kg	17.7	--	1
Aroclor 1268	ND		ug/kg	17.7	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		30-150
Decachlorobiphenyl	84		30-150
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	84		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-07	Date Collected:	05/13/13 00:00
Client ID:	145172	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 03:59	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	54.4	--	1
Aroclor 1221	ND		ug/kg	54.4	--	1
Aroclor 1232	ND		ug/kg	54.4	--	1
Aroclor 1242	ND		ug/kg	54.4	--	1
Aroclor 1248	ND		ug/kg	36.2	--	1
Aroclor 1254	ND		ug/kg	54.4	--	1
Aroclor 1260	ND		ug/kg	36.2	--	1
Aroclor 1262	ND		ug/kg	18.1	--	1
Aroclor 1268	ND		ug/kg	18.1	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	86		30-150
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	89		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-08	Date Collected:	05/13/13 00:00
Client ID:	145173	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 04:12	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	53.6	--	1
Aroclor 1221	ND		ug/kg	53.6	--	1
Aroclor 1232	ND		ug/kg	53.6	--	1
Aroclor 1242	ND		ug/kg	53.6	--	1
Aroclor 1248	ND		ug/kg	35.7	--	1
Aroclor 1254	ND		ug/kg	53.6	--	1
Aroclor 1260	ND		ug/kg	35.7	--	1
Aroclor 1262	ND		ug/kg	17.8	--	1
Aroclor 1268	ND		ug/kg	17.8	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	58		30-150
Decachlorobiphenyl	80		30-150
2,4,5,6-Tetrachloro-m-xylene	58		30-150
Decachlorobiphenyl	83		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID:	L1308550-09	Date Collected:	05/13/13 00:00
Client ID:	145174	Date Received:	05/14/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/14/13 21:11
Analytical Date:	05/19/13 04:24	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	05/17/13
Percent Solids:	100%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/17/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	50.8	--	1
Aroclor 1221	ND		ug/kg	50.8	--	1
Aroclor 1232	ND		ug/kg	50.8	--	1
Aroclor 1242	ND		ug/kg	50.8	--	1
Aroclor 1248	ND		ug/kg	33.8	--	1
Aroclor 1254	ND		ug/kg	50.8	--	1
Aroclor 1260	ND		ug/kg	33.8	--	1
Aroclor 1262	ND		ug/kg	16.9	--	1
Aroclor 1268	ND		ug/kg	16.9	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	58		30-150
Decachlorobiphenyl	78		30-150
2,4,5,6-Tetrachloro-m-xylene	59		30-150
Decachlorobiphenyl	79		30-150

Project Name: Not Specified

Project Number: 18633

Lab Number: L1308550

Report Date: 05/20/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 05/19/13 06:15
Analyst: GT

Extraction Method: EPA 3540C
Extraction Date: 05/14/13 21:11
Cleanup Method1: EPA 3665A
Cleanup Date1: 05/17/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 05/17/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 01-09 Batch: WG607993-1					
Aroclor 1016	ND		ug/kg	56.3	--
Aroclor 1221	ND		ug/kg	56.3	--
Aroclor 1232	ND		ug/kg	56.3	--
Aroclor 1242	ND		ug/kg	56.3	--
Aroclor 1248	ND		ug/kg	37.5	--
Aroclor 1254	ND		ug/kg	56.3	--
Aroclor 1260	ND		ug/kg	37.5	--
Aroclor 1262	ND		ug/kg	18.8	--
Aroclor 1268	ND		ug/kg	18.8	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	86		30-150
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	93		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 01-09 Batch: WG607993-2 WG607993-3								
Aroclor 1016	73		73		40-140	0		50
Aroclor 1260	82		79		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		72		30-150
Decachlorobiphenyl	85		88		30-150
2,4,5,6-Tetrachloro-m-xylene	68		74		30-150
Decachlorobiphenyl	91		97		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-01
Client ID: 145166
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.0		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-02
Client ID: 145167
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.9		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-03
Client ID: 145168
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.9		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-04
Client ID: 145169
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.8		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-05
Client ID: 145170
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-06
Client ID: 145171
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.2		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-07
Client ID: 145172
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.9		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-08
Client ID: 145173
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

SAMPLE RESULTS

Lab ID: L1308550-09
Client ID: 145174
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/13/13 00:00
Date Received: 05/14/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.8		%	0.100	NA	1	-	05/14/13 22:50	30,2540G	RD

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG608037-1 QC Sample: L1308550-01 Client ID: 145166						
Solids, Total	99.0	99.0	%	0		20

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308550
Report Date: 05/20/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1308550-01A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-02A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-03A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-04A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-05A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-06A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-07A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-08A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308550-09A	Amber 120ml unpreserved	A	N/A	3.5	Y	Absent	TS(7),PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1308550
Project Number:	18633	**Report Date:**	05/20/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1308550

Project Number: 18633 **Report Date:** 05/20/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1308550
Project Number: 18633 **Report Date:** 05/20/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 5/13/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

L1308550

TO: Alpha Analytical
Westborough, MA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18633

The cost of this analysis will be covered by EH&E Purchase Order # 18633

For EH & E Data Coordinator - URGENT DATA ☐

0850.	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
1	145166	Bulk	PCB, EPA 8082 w/ Soxhlet	
2	145167			
3	145168			
4	145169			
5	145170			
6	145171			
7	145172			
8	145173			
9	145174			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient MFRAGALA@EHEINC.COM

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 5/14/13

Received by: _____ of (company name) EHE Date: 5/14/13

Relinquished by: _____ of (company name) EHE Date: 5/14/13

Received by: _____ of (company name) Alpha Date: 5/14/13 12:15

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

ANALYTICAL REPORT

Lab Number:	L1308817
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	18633
Project Number:	18633
Report Date:	05/23/13

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

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: 18633
Project Number: 18633

Lab Number: L1308817
Report Date: 05/23/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1308817-01	145175	Not Specified	05/15/13 00:00
L1308817-02	145176	Not Specified	05/15/13 00:00
L1308817-03	145177	Not Specified	05/15/13 00:00
L1308817-04	145178	Not Specified	05/15/13 00:00
L1308817-05	145179	Not Specified	05/15/13 00:00
L1308817-06	145180	Not Specified	05/15/13 00:00
L1308817-07	145181	Not Specified	05/15/13 00:00

Project Name: 18633 **Lab Number:** L1308817
Project Number: 18633 **Report Date:** 05/23/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	18633	**Lab Number:**	L1308817
Project Number:	18633	**Report Date:**	05/23/13

Case Narrative (continued)

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were hand-delivered to the laboratory in a cooler but were not on ice.

PCBs

L1308817-06 contains peaks which match the retention times for Aroclor 1254, but do not match the area ratios typical for this aroclor. The result for Aroclor 1254 is reported as "weathered".

The surrogate recoveries for L1308817-06 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (both 0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 05/23/13

ORGANICS

PCBS

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-01	D	Date Collected:	05/15/13 00:00
Client ID:	145175		Date Received:	05/16/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Wood		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/17/13 11:01
Analytical Date:	05/22/13 11:21		Cleanup Method1:	EPA 3665A
Analyst:	JT		Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	141	--	2.5
Aroclor 1221	ND		ug/kg	141	--	2.5
Aroclor 1232	ND		ug/kg	141	--	2.5
Aroclor 1242	ND		ug/kg	141	--	2.5
Aroclor 1260	ND		ug/kg	94.2	--	2.5
Aroclor 1262	ND		ug/kg	47.1	--	2.5
Aroclor 1268	ND		ug/kg	47.1	--	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	107		30-150
Decachlorobiphenyl	93		30-150
2,4,5,6-Tetrachloro-m-xylene	104		30-150
Decachlorobiphenyl	105		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-01	D	Date Collected:	05/15/13 00:00
Client ID:	145175		Date Received:	05/16/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Wood		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/17/13 11:01
Analytical Date:	05/22/13 11:21		Cleanup Method1:	EPA 3665A
Analyst:	JT		Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1248	3490		ug/kg	94.2	--	2.5
Aroclor 1254	1900		ug/kg	141	--	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	107		30-150
Decachlorobiphenyl	93		30-150
2,4,5,6-Tetrachloro-m-xylene	104		30-150
Decachlorobiphenyl	105		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-02	Date Collected:	05/15/13 00:00
Client ID:	145176	Date Received:	05/16/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wood	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/17/13 11:01
Analytical Date:	05/21/13 17:26	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	51.4	--	1
Aroclor 1221	ND		ug/kg	51.4	--	1
Aroclor 1232	ND		ug/kg	51.4	--	1
Aroclor 1242	ND		ug/kg	51.4	--	1
Aroclor 1248	ND		ug/kg	34.2	--	1
Aroclor 1262	ND		ug/kg	17.1	--	1
Aroclor 1268	ND		ug/kg	17.1	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	101		30-150
Decachlorobiphenyl	84		30-150
2,4,5,6-Tetrachloro-m-xylene	98		30-150
Decachlorobiphenyl	93		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-02	Date Collected:	05/15/13 00:00
Client ID:	145176	Date Received:	05/16/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wood	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/17/13 11:01
Analytical Date:	05/21/13 17:26	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1254	305		ug/kg	51.4	--	1
Aroclor 1260	36.9		ug/kg	34.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	101		30-150
Decachlorobiphenyl	84		30-150
2,4,5,6-Tetrachloro-m-xylene	98		30-150
Decachlorobiphenyl	93		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-03	Date Collected:	05/15/13 00:00
Client ID:	145177	Date Received:	05/16/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wood	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/17/13 11:01
Analytical Date:	05/21/13 17:40	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	56.0	--	1
Aroclor 1221	ND		ug/kg	56.0	--	1
Aroclor 1232	ND		ug/kg	56.0	--	1
Aroclor 1242	ND		ug/kg	56.0	--	1
Aroclor 1248	ND		ug/kg	37.3	--	1
Aroclor 1254	181		ug/kg	56.0	--	1
Aroclor 1262	ND		ug/kg	18.6	--	1
Aroclor 1268	ND		ug/kg	18.6	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	48		30-150
Decachlorobiphenyl	39		30-150
2,4,5,6-Tetrachloro-m-xylene	49		30-150
Decachlorobiphenyl	44		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-03	Date Collected:	05/15/13 00:00
Client ID:	145177	Date Received:	05/16/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wood	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/17/13 11:01
Analytical Date:	05/21/13 17:40	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1260	ND		ug/kg	37.3	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	48		30-150
Decachlorobiphenyl	39		30-150
2,4,5,6-Tetrachloro-m-xylene	49		30-150
Decachlorobiphenyl	44		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-04	Date Collected:	05/15/13 00:00
Client ID:	145178	Date Received:	05/16/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wood	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/17/13 11:01
Analytical Date:	05/21/13 17:53	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	51.6	--	1
Aroclor 1221	ND		ug/kg	51.6	--	1
Aroclor 1232	ND		ug/kg	51.6	--	1
Aroclor 1242	ND		ug/kg	51.6	--	1
Aroclor 1248	1170		ug/kg	34.4	--	1
Aroclor 1254	1160		ug/kg	51.6	--	1
Aroclor 1262	ND		ug/kg	17.2	--	1
Aroclor 1268	ND		ug/kg	17.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	39		30-150
Decachlorobiphenyl	32		30-150
2,4,5,6-Tetrachloro-m-xylene	39		30-150
Decachlorobiphenyl	38		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-04	Date Collected:	05/15/13 00:00
Client ID:	145178	Date Received:	05/16/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wood	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/17/13 11:01
Analytical Date:	05/21/13 17:53	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1260	140		ug/kg	34.4	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	39		30-150
Decachlorobiphenyl	32		30-150
2,4,5,6-Tetrachloro-m-xylene	39		30-150
Decachlorobiphenyl	38		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-05	D	Date Collected:	05/15/13 00:00
Client ID:	145179		Date Received:	05/16/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Wood		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/17/13 11:01
Analytical Date:	05/22/13 11:34		Cleanup Method1:	EPA 3665A
Analyst:	JT		Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	272	--	5
Aroclor 1221	ND		ug/kg	272	--	5
Aroclor 1232	ND		ug/kg	272	--	5
Aroclor 1242	ND		ug/kg	272	--	5
Aroclor 1260	ND		ug/kg	181	--	5
Aroclor 1262	ND		ug/kg	90.6	--	5
Aroclor 1268	ND		ug/kg	90.6	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	95		30-150
Decachlorobiphenyl	87		30-150
2,4,5,6-Tetrachloro-m-xylene	94		30-150
Decachlorobiphenyl	101		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-05	D	Date Collected:	05/15/13 00:00
Client ID:	145179		Date Received:	05/16/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Wood		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/17/13 11:01
Analytical Date:	05/22/13 11:34		Cleanup Method1:	EPA 3665A
Analyst:	JT		Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1248	2750		ug/kg	181	--	5
Aroclor 1254	1590		ug/kg	272	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	95		30-150
Decachlorobiphenyl	87		30-150
2,4,5,6-Tetrachloro-m-xylene	94		30-150
Decachlorobiphenyl	101		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-06	D	Date Collected:	05/15/13 00:00
Client ID:	145180		Date Received:	05/16/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Wood		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/17/13 11:01
Analytical Date:	05/22/13 11:48		Cleanup Method1:	EPA 3665A
Analyst:	JT		Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	545	--	10
Aroclor 1221	ND		ug/kg	545	--	10
Aroclor 1232	ND		ug/kg	545	--	10
Aroclor 1242	ND		ug/kg	545	--	10
Aroclor 1248	ND		ug/kg	364	--	10
Aroclor 1254	6300		ug/kg	545	--	10
Aroclor 1260	ND		ug/kg	364	--	10
Aroclor 1262	ND		ug/kg	182	--	10
Aroclor 1268	ND		ug/kg	182	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150
Decachlorobiphenyl	**0**	Q	30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-07	D	Date Collected:	05/15/13 00:00
Client ID:	145181		Date Received:	05/16/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Wood		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/17/13 11:01
Analytical Date:	05/22/13 12:01		Cleanup Method1:	EPA 3665A
Analyst:	JT		Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	261	--	5
Aroclor 1221	ND		ug/kg	261	--	5
Aroclor 1232	ND		ug/kg	261	--	5
Aroclor 1242	ND		ug/kg	261	--	5
Aroclor 1260	ND		ug/kg	174	--	5
Aroclor 1262	ND		ug/kg	87.1	--	5
Aroclor 1268	ND		ug/kg	87.1	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	99		30-150
Decachlorobiphenyl	92		30-150
2,4,5,6-Tetrachloro-m-xylene	99		30-150
Decachlorobiphenyl	104		30-150

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

SAMPLE RESULTS

Lab ID:	L1308817-07	D	Date Collected:	05/15/13 00:00
Client ID:	145181		Date Received:	05/16/13
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Wood		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	05/17/13 11:01
Analytical Date:	05/22/13 12:01		Cleanup Method1:	EPA 3665A
Analyst:	JT		Cleanup Date1:	05/19/13
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method2:	EPA 3660B
			Cleanup Date2:	05/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1248	2670		ug/kg	174	--	5
Aroclor 1254	1690		ug/kg	261	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	99		30-150
Decachlorobiphenyl	92		30-150
2,4,5,6-Tetrachloro-m-xylene	99		30-150
Decachlorobiphenyl	104		30-150

Project Name: 18633

Project Number: 18633

Lab Number: L1308817

Report Date: 05/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 05/21/13 20:58
Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 05/17/13 11:01
Cleanup Method1: EPA 3665A
Cleanup Date1: 05/19/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 05/19/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 01-07 Batch: WG608855-1					
Aroclor 1016	ND		ug/kg	58.8	--
Aroclor 1221	ND		ug/kg	58.8	--
Aroclor 1232	ND		ug/kg	58.8	--
Aroclor 1242	ND		ug/kg	58.8	--
Aroclor 1248	ND		ug/kg	39.2	--
Aroclor 1254	ND		ug/kg	58.8	--
Aroclor 1260	ND		ug/kg	39.2	--
Aroclor 1262	ND		ug/kg	19.6	--
Aroclor 1268	ND		ug/kg	19.6	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	90		30-150
Decachlorobiphenyl	83		30-150
2,4,5,6-Tetrachloro-m-xylene	87		30-150
Decachlorobiphenyl	86		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: 18633

Project Number: 18633

Lab Number: L1308817

Report Date: 05/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 01-07 Batch: WG608855-2 WG608855-3								
Aroclor 1016	81		78		40-140	4		50
Aroclor 1260	81		84		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	101		97		30-150
Decachlorobiphenyl	93		94		30-150
2,4,5,6-Tetrachloro-m-xylene	98		93		30-150
Decachlorobiphenyl	93		93		30-150

Project Name: 18633
Project Number: 18633

Lab Number: L1308817
Report Date: 05/23/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1308817-01A	Amber 100ml unpreserved	A	N/A	16.9	Y	Absent	PCB-8082LL-3540C(14)
L1308817-02A	Amber 100ml unpreserved	A	N/A	16.9	Y	Absent	PCB-8082LL-3540C(14)
L1308817-03A	Amber 100ml unpreserved	A	N/A	16.9	Y	Absent	PCB-8082LL-3540C(14)
L1308817-04A	Amber 100ml unpreserved	A	N/A	16.9	Y	Absent	PCB-8082LL-3540C(14)
L1308817-05A	Amber 100ml unpreserved	A	N/A	16.9	Y	Absent	PCB-8082LL-3540C(14)
L1308817-06A	Amber 100ml unpreserved	A	N/A	16.9	Y	Absent	PCB-8082LL-3540C(14)
L1308817-07A	Amber 100ml unpreserved	A	N/A	16.9	Y	Absent	PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name:	18633	**Lab Number:**	L1308817
Project Number:	18633	**Report Date:**	05/23/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name: 18633 **Lab Number:** L1308817

Project Number: 18633 **Report Date:** 05/23/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: 18633 **Lab Number:** L1308817
Project Number: 18633 **Report Date:** 05/23/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

L1308817

DATE: 5/15/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha Analytical

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18633

The cost of this analysis will be covered by EH&E Purchase Order # 18633

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
145175	Bulk	PCB - EPA 8082 w/ Soxhlet	5/15/13
145176	↓	↓	↓
145177			
145178			
145179			
145180			
145181			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☑ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient MFRAGALA@EHEINC.COM

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 5/16/13

Received by: _____ of (company name) EHE Date: 5/16/13

Relinquished by: _____ of (company name) EHE Date: 5/16/13

Received by: _____ of (company name) Alpha Date: 5/16/13 1325

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

ANALYTICAL REPORT

Lab Number:	L1308936
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	18633
Report Date:	05/24/13

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

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1308936-01	145182	Not Specified	05/16/13 00:00
L1308936-02	145183	Not Specified	05/16/13 00:00
L1308936-03	145184	Not Specified	05/16/13 00:00
L1308936-04	145185	Not Specified	05/16/13 00:00
L1308936-05	145186	Not Specified	05/16/13 00:00
L1308936-06	145187	Not Specified	05/16/13 00:00
L1308936-07	145188	Not Specified	05/16/13 00:00
L1308936-08	145189	Not Specified	05/16/13 00:00

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

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

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative

Date: 05/24/13

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-01	Date Collected:	05/16/13 00:00
Client ID:	145182	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 15:35	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	56.0	--	1
Aroclor 1221	ND		ug/kg	56.0	--	1
Aroclor 1232	ND		ug/kg	56.0	--	1
Aroclor 1248	ND		ug/kg	37.3	--	1
Aroclor 1254	ND		ug/kg	56.0	--	1
Aroclor 1260	ND		ug/kg	37.3	--	1
Aroclor 1262	ND		ug/kg	18.7	--	1
Aroclor 1268	ND		ug/kg	18.7	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	**151**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	138		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-01	Date Collected:	05/16/13 00:00
Client ID:	145182	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 15:35	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1242	128		ug/kg	56.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	**151**	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	138		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-02	Date Collected:	05/16/13 00:00
Client ID:	145183	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 15:48	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	57.3	--	1
Aroclor 1221	ND		ug/kg	57.3	--	1
Aroclor 1232	ND		ug/kg	57.3	--	1
Aroclor 1248	ND		ug/kg	38.2	--	1
Aroclor 1254	ND		ug/kg	57.3	--	1
Aroclor 1260	ND		ug/kg	38.2	--	1
Aroclor 1262	ND		ug/kg	19.1	--	1
Aroclor 1268	ND		ug/kg	19.1	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	50		30-150
Decachlorobiphenyl	54		30-150
2,4,5,6-Tetrachloro-m-xylene	51		30-150
Decachlorobiphenyl	83		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-02	Date Collected:	05/16/13 00:00
Client ID:	145183	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 15:48	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1242	118		ug/kg	57.3	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	50		30-150
Decachlorobiphenyl	54		30-150
2,4,5,6-Tetrachloro-m-xylene	51		30-150
Decachlorobiphenyl	83		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-03	Date Collected:	05/16/13 00:00
Client ID:	145184	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 16:01	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	56.8	--	1
Aroclor 1221	ND		ug/kg	56.8	--	1
Aroclor 1232	ND		ug/kg	56.8	--	1
Aroclor 1242	76.5		ug/kg	56.8	--	1
Aroclor 1248	ND		ug/kg	37.9	--	1
Aroclor 1254	ND		ug/kg	56.8	--	1
Aroclor 1260	ND		ug/kg	37.9	--	1
Aroclor 1262	ND		ug/kg	18.9	--	1
Aroclor 1268	ND		ug/kg	18.9	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	65		30-150
Decachlorobiphenyl	64		30-150
2,4,5,6-Tetrachloro-m-xylene	63		30-150
Decachlorobiphenyl	72		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-04	Date Collected:	05/16/13 00:00
Client ID:	145185	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Brick Dust	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 16:15	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	100%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	58.0	--	1
Aroclor 1221	ND		ug/kg	58.0	--	1
Aroclor 1232	ND		ug/kg	58.0	--	1
Aroclor 1242	ND		ug/kg	58.0	--	1
Aroclor 1248	ND		ug/kg	38.6	--	1
Aroclor 1254	ND		ug/kg	58.0	--	1
Aroclor 1260	ND		ug/kg	38.6	--	1
Aroclor 1262	ND		ug/kg	19.3	--	1
Aroclor 1268	ND		ug/kg	19.3	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	58		30-150
Decachlorobiphenyl	71		30-150
2,4,5,6-Tetrachloro-m-xylene	57		30-150
Decachlorobiphenyl	69		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-05	Date Collected:	05/16/13 00:00
Client ID:	145186	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Brick Dust	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 16:28	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	100%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	52.3	--	1
Aroclor 1221	ND		ug/kg	52.3	--	1
Aroclor 1232	ND		ug/kg	52.3	--	1
Aroclor 1242	ND		ug/kg	52.3	--	1
Aroclor 1248	ND		ug/kg	34.8	--	1
Aroclor 1254	ND		ug/kg	52.3	--	1
Aroclor 1260	ND		ug/kg	34.8	--	1
Aroclor 1262	ND		ug/kg	17.4	--	1
Aroclor 1268	ND		ug/kg	17.4	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	75		30-150
Decachlorobiphenyl	79		30-150
2,4,5,6-Tetrachloro-m-xylene	73		30-150
Decachlorobiphenyl	84		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-06	Date Collected:	05/16/13 00:00
Client ID:	145187	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Brick Dust	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 16:41	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	100%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	50.2	--	1
Aroclor 1221	ND		ug/kg	50.2	--	1
Aroclor 1232	ND		ug/kg	50.2	--	1
Aroclor 1242	ND		ug/kg	50.2	--	1
Aroclor 1248	ND		ug/kg	33.4	--	1
Aroclor 1254	ND		ug/kg	50.2	--	1
Aroclor 1260	ND		ug/kg	33.4	--	1
Aroclor 1262	ND		ug/kg	16.7	--	1
Aroclor 1268	ND		ug/kg	16.7	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	77		30-150
Decachlorobiphenyl	80		30-150
2,4,5,6-Tetrachloro-m-xylene	75		30-150
Decachlorobiphenyl	81		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-07	Date Collected:	05/16/13 00:00
Client ID:	145188	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Brick Dust	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 16:54	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	53.3	--	1
Aroclor 1221	ND		ug/kg	53.3	--	1
Aroclor 1232	ND		ug/kg	53.3	--	1
Aroclor 1242	114		ug/kg	53.3	--	1
Aroclor 1248	ND		ug/kg	35.6	--	1
Aroclor 1254	ND		ug/kg	53.3	--	1
Aroclor 1260	ND		ug/kg	35.6	--	1
Aroclor 1262	ND		ug/kg	17.8	--	1
Aroclor 1268	ND		ug/kg	17.8	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	62		30-150
Decachlorobiphenyl	67		30-150
2,4,5,6-Tetrachloro-m-xylene	61		30-150
Decachlorobiphenyl	68		30-150

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID:	L1308936-08	Date Collected:	05/16/13 00:00
Client ID:	145189	Date Received:	05/17/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Brick Dust	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	05/18/13 11:10
Analytical Date:	05/23/13 17:08	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	05/20/13
Percent Solids:	100%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	05/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB by GC - Westborough Lab						
Aroclor 1016	ND		ug/kg	55.4	--	1
Aroclor 1221	ND		ug/kg	55.4	--	1
Aroclor 1232	ND		ug/kg	55.4	--	1
Aroclor 1242	ND		ug/kg	55.4	--	1
Aroclor 1248	ND		ug/kg	37.0	--	1
Aroclor 1254	ND		ug/kg	55.4	--	1
Aroclor 1260	ND		ug/kg	37.0	--	1
Aroclor 1262	ND		ug/kg	18.5	--	1
Aroclor 1268	ND		ug/kg	18.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	84		30-150
Decachlorobiphenyl	94		30-150
2,4,5,6-Tetrachloro-m-xylene	82		30-150
Decachlorobiphenyl	94		30-150

Project Name: Not Specified

Project Number: 18633

Lab Number: L1308936

Report Date: 05/24/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 05/23/13 17:21
Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 05/18/13 11:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 05/20/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 05/20/13

Parameter	Result	Qualifier	Units	RL	MDL
PCB by GC - Westborough Lab for sample(s): 01-08 Batch: WG609051-1					
Aroclor 1016	ND		ug/kg	55.9	--
Aroclor 1221	ND		ug/kg	55.9	--
Aroclor 1232	ND		ug/kg	55.9	--
Aroclor 1242	ND		ug/kg	55.9	--
Aroclor 1248	ND		ug/kg	37.2	--
Aroclor 1254	ND		ug/kg	55.9	--
Aroclor 1260	ND		ug/kg	37.2	--
Aroclor 1262	ND		ug/kg	18.6	--
Aroclor 1268	ND		ug/kg	18.6	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	88		30-150
Decachlorobiphenyl	88		30-150
2,4,5,6-Tetrachloro-m-xylene	85		30-150
Decachlorobiphenyl	87		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB by GC - Westborough Lab Associated sample(s): 01-08 Batch: WG609051-2 WG609051-3								
Aroclor 1016	90		90		40-140	0		50
Aroclor 1260	93		91		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	89		85		30-150
Decachlorobiphenyl	92		88		30-150
2,4,5,6-Tetrachloro-m-xylene	86		83		30-150
Decachlorobiphenyl	92		88		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-01
Client ID: 145182
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.4		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-02
Client ID: 145183
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.2		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-03
Client ID: 145184
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.2		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-04
Client ID: 145185
Sample Location: Not Specified
Matrix: Brick Dust

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.9		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-05
Client ID: 145186
Sample Location: Not Specified
Matrix: Brick Dust

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-06
Client ID: 145187
Sample Location: Not Specified
Matrix: Brick Dust

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-07
Client ID: 145188
Sample Location: Not Specified
Matrix: Brick Dust

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.2		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

SAMPLE RESULTS

Lab ID: L1308936-08
Client ID: 145189
Sample Location: Not Specified
Matrix: Brick Dust

Date Collected: 05/16/13 00:00
Date Received: 05/17/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	05/17/13 19:53	30,2540G	RD

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG608981-1 QC Sample: L1308936-01 Client ID: 145182						
Solids, Total	99.4	99.3	%	0		20

Project Name: Not Specified
Project Number: 18633

Lab Number: L1308936
Report Date: 05/24/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1308936-01A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308936-02A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308936-03A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308936-04A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308936-05A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308936-06A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308936-07A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)
L1308936-08A	Amber 100ml unpreserved	A	N/A	4.6	Y	Absent	TS(7),PCB-8082LL-3540C(14)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1308936
Project Number:	18633	**Report Date:**	05/24/13

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1308936

Project Number: 18633 **Report Date:** 05/24/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1308936
Project Number: 18633 **Report Date:** 05/24/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

L1308936

DATE: 5/16/13

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha Analytical
Westborough, MA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 18633

The cost of this analysis will be covered by EH&E Purchase Order # _____

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
145182	Bulk	PCB, EPA 8082 w/ Soxhlet	5/16/13
145183			
145184			
145185			
145186			
145187			
145188			
145189			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient MFRAGALA@EHEINC.COM

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 5/17/13

Received by: _____ of (company name) EHE Date: 5/17/13

Relinquished by: _____ of (company name) EHE Date: 5/17/13

Received by: _____ of (company name) Alpha Date: 5/17/13 1155

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

APPENDIX C

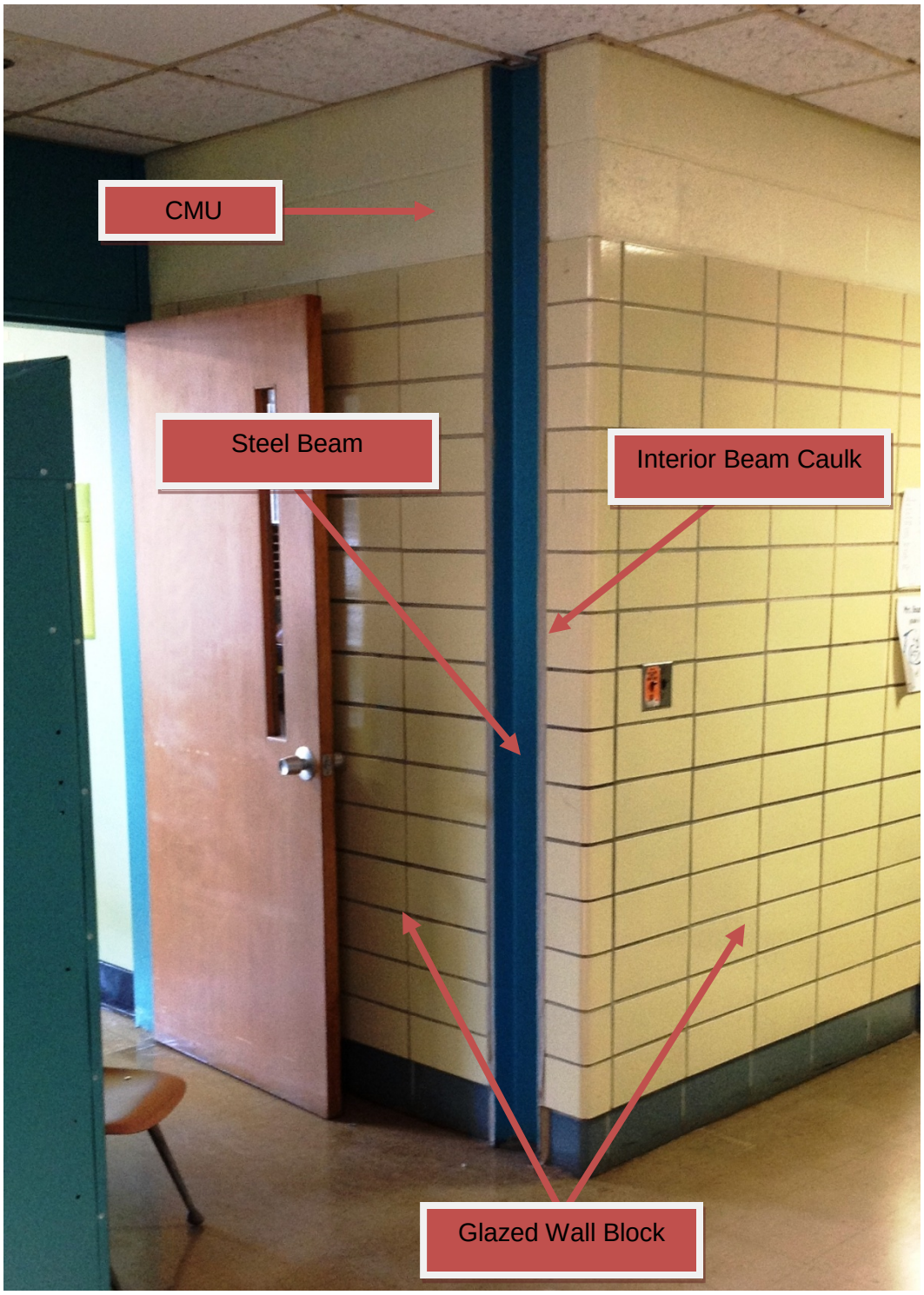
SELECTED PHOTOGRAPHS

SELECTED PHOTOGRAPHS

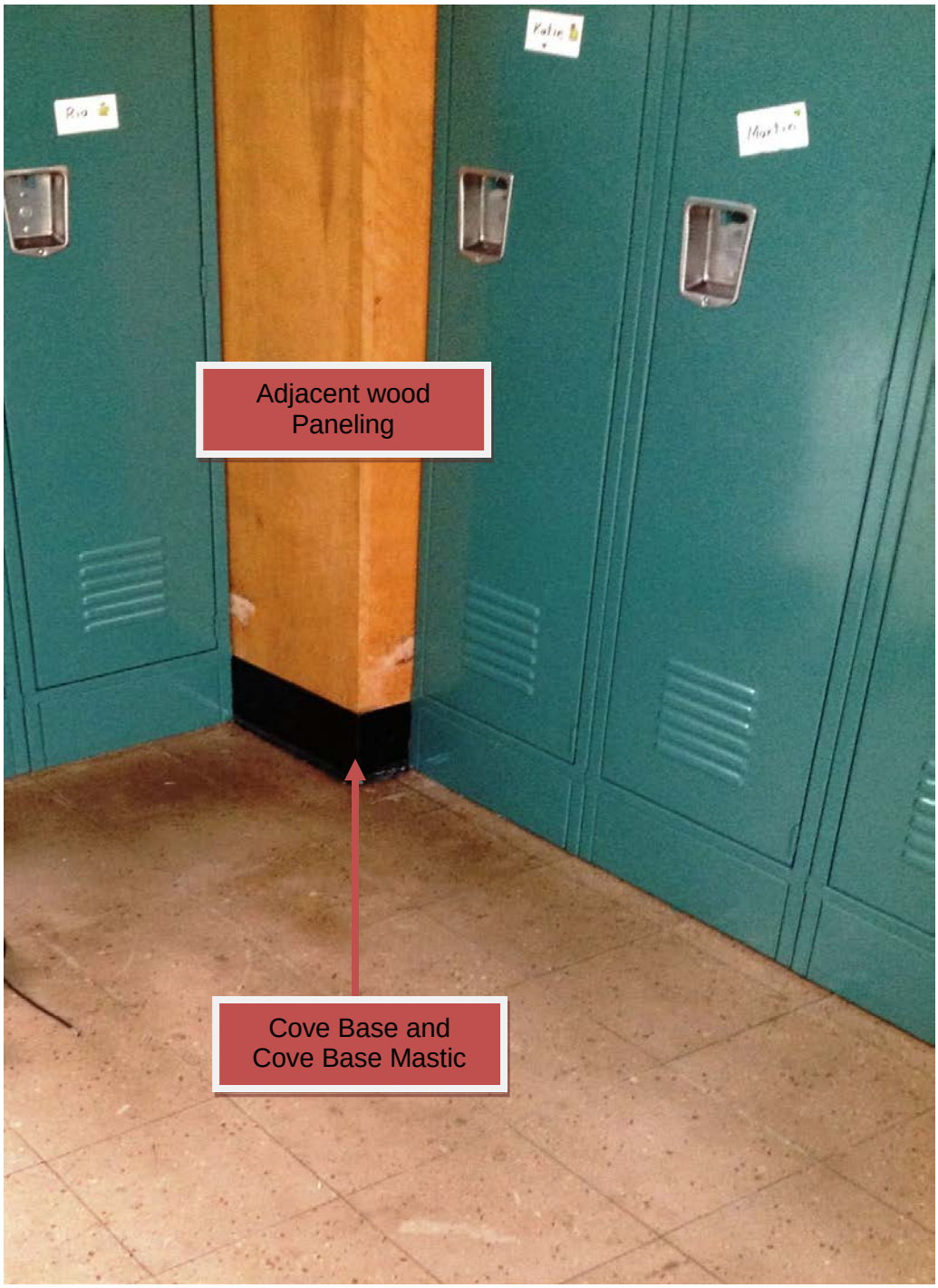
Photograph C.1 Interior Asbestos Cement Panel (PCB Bulk Product Waste)

Photograph C.2 Interior Asbestos Window Glazing (PCB Bulk Product Waste)

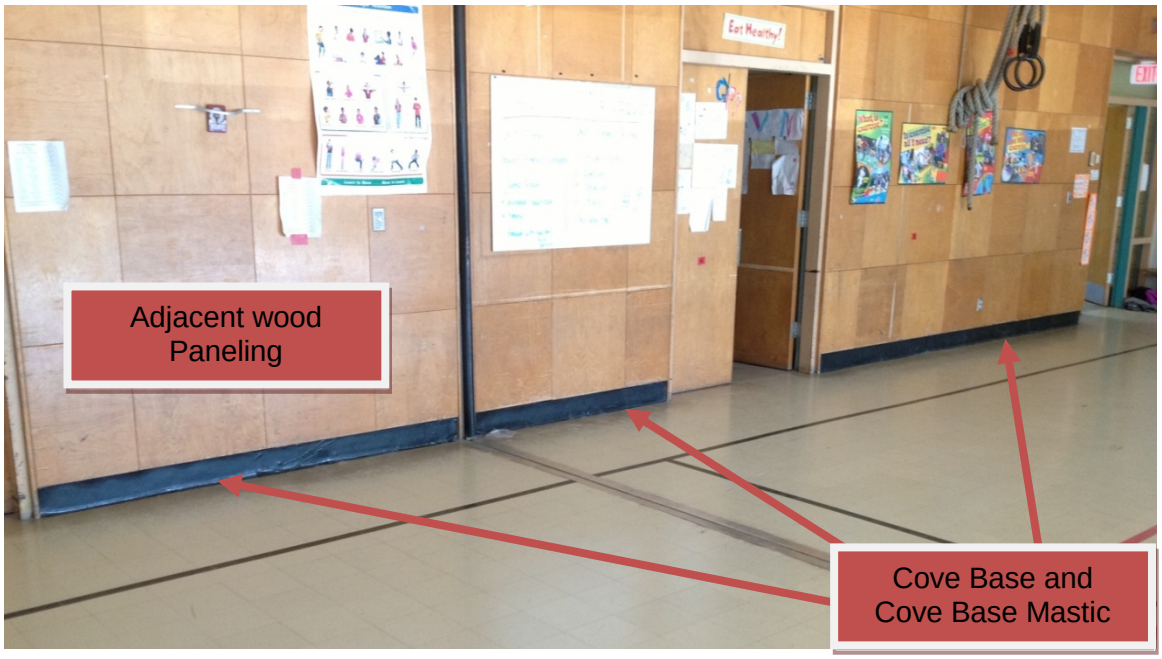
Photograph C.3 Ceiling Tile, Original Installation (PCB Bulk Product Waste), Throughout School



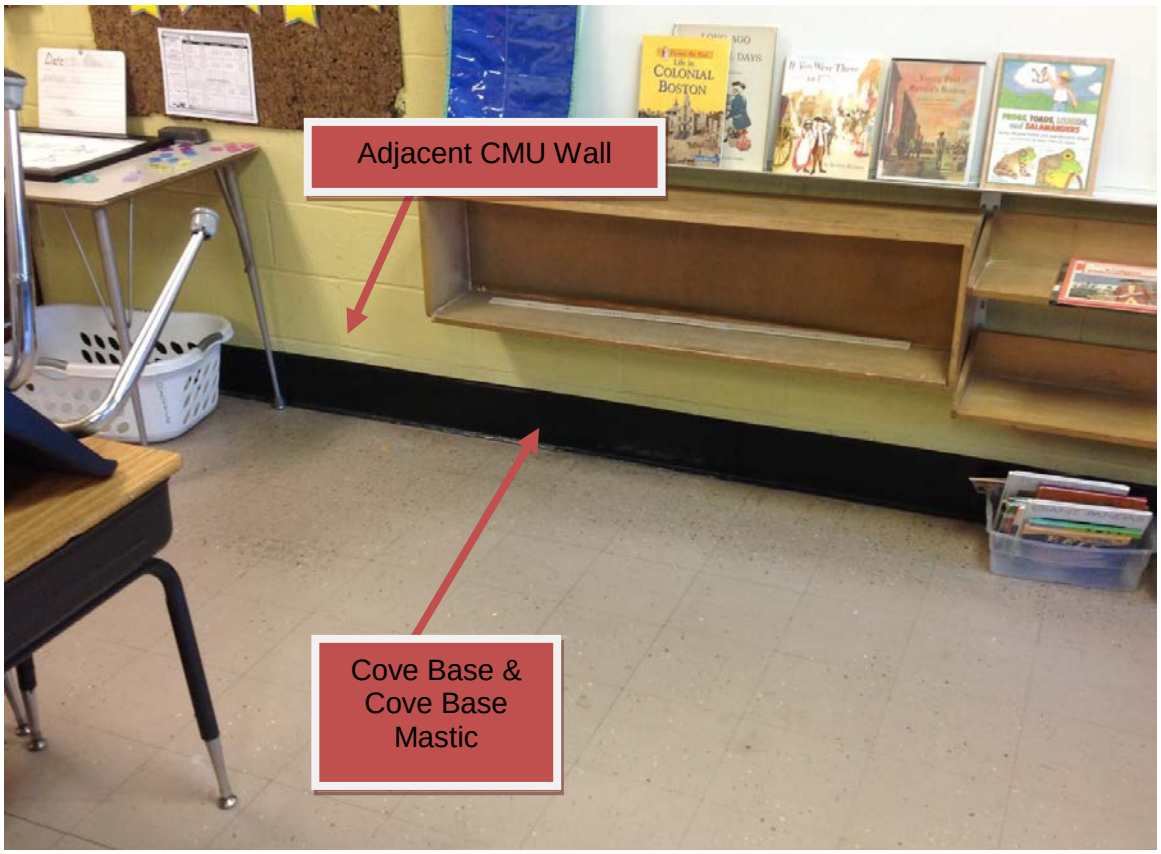
Photograph C.4 Interior Beam Caulk, Adjacent to Steel Beam, CMU and Glazed Wall Block (PCB Bulk Product Waste)



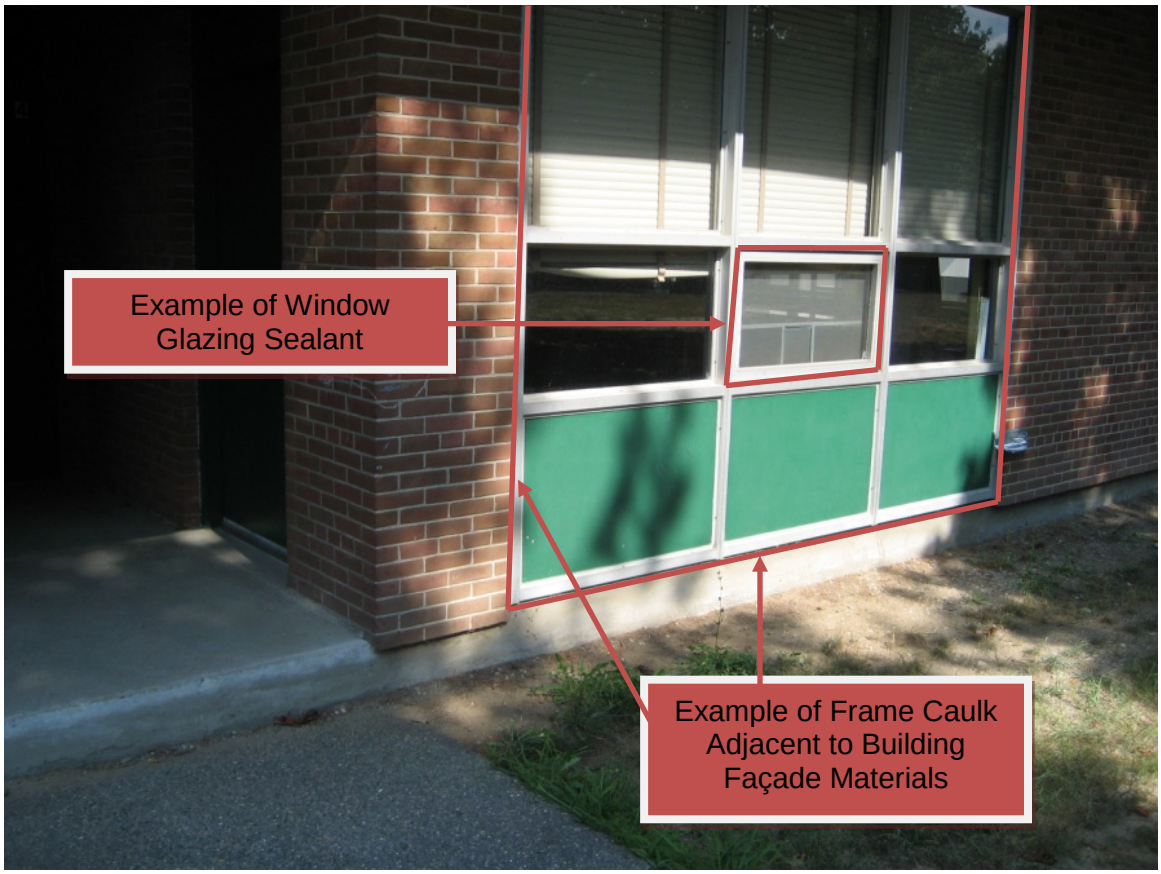
Photograph C.5 Cove base, Cove Base Mastic and Adjacent Wood Paneling, (PCB Bulk Product Waste), Hallway Locker Area



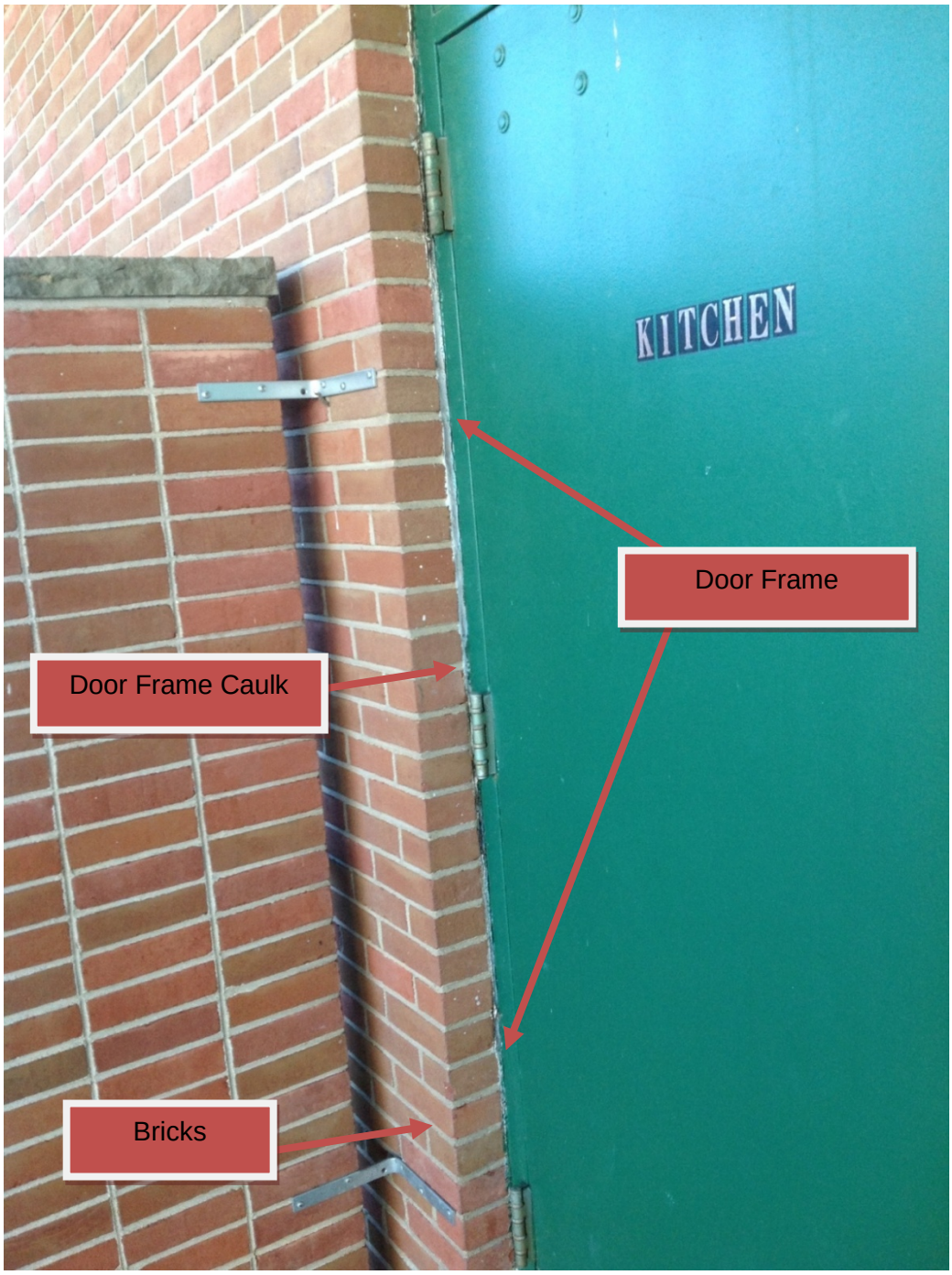
Photograph C.6 Cove Base, Cove Base Mastic and Adjacent Wood Paneling (PCB Bulk Product Waste) Gymnasium



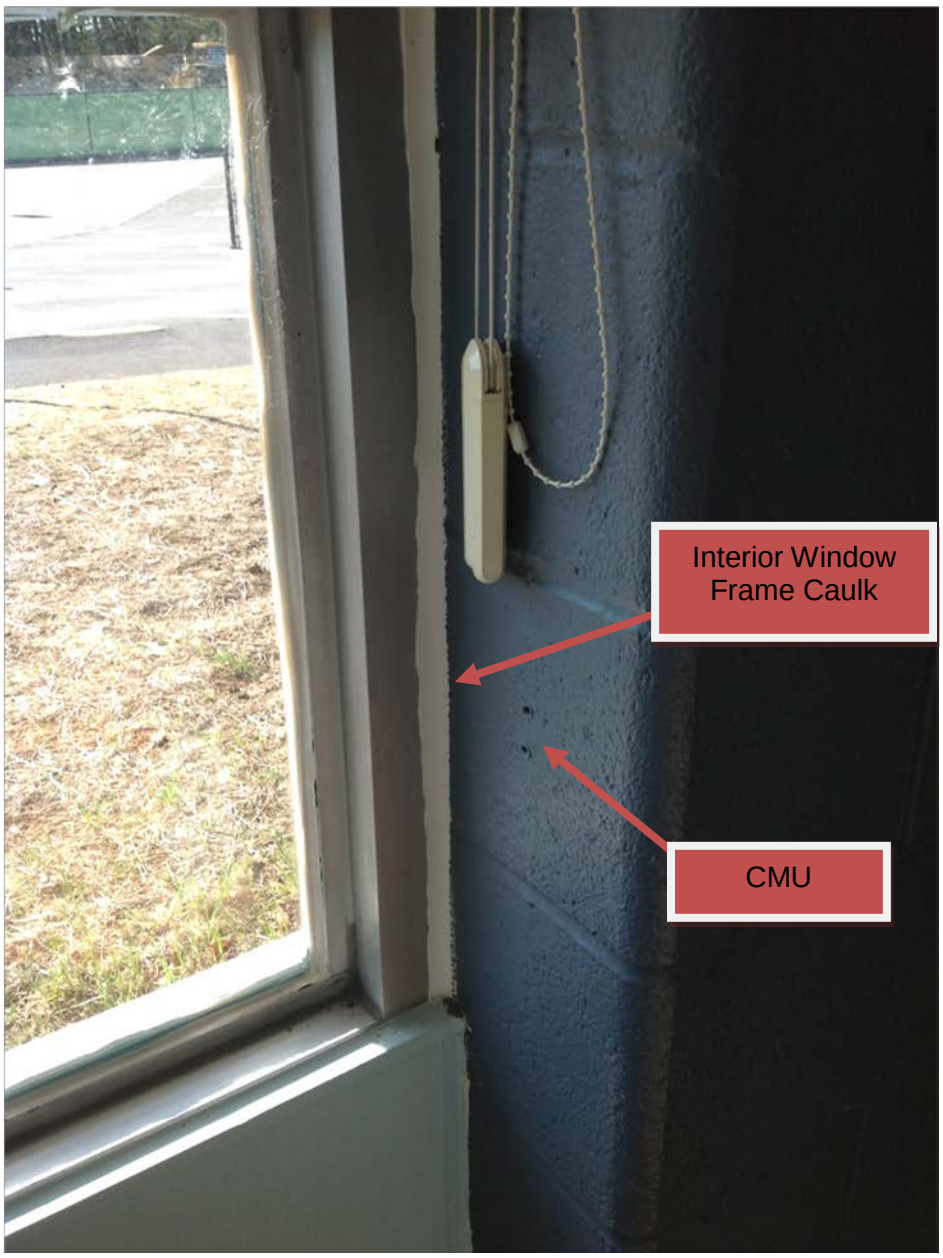
Photograph C.7 Cove Base, Cove Base Mastic and Adjacent CMU (Concrete Masonry Unit) Wall, (PCB Bulk Product Waste), Classroom Area



Photograph C.8 Typical Façade Section



Photograph C.9 Exterior Door Frame Caulk, Adjacent Door Frame and Brick (PCB Bulk Product Waste)



Photograph C.10 Interior Window Frame Caulk, Adjacent to CMU (PCB Bulk Product Waste)

Photograph C.11 Exterior PCB Window Frame Caulk, Adjacent to Concrete Slab (PCB Bulk Product Waste)

Photograph C.12 Exterior Wood Overhang with Top Horizontal Window Frame Caulk

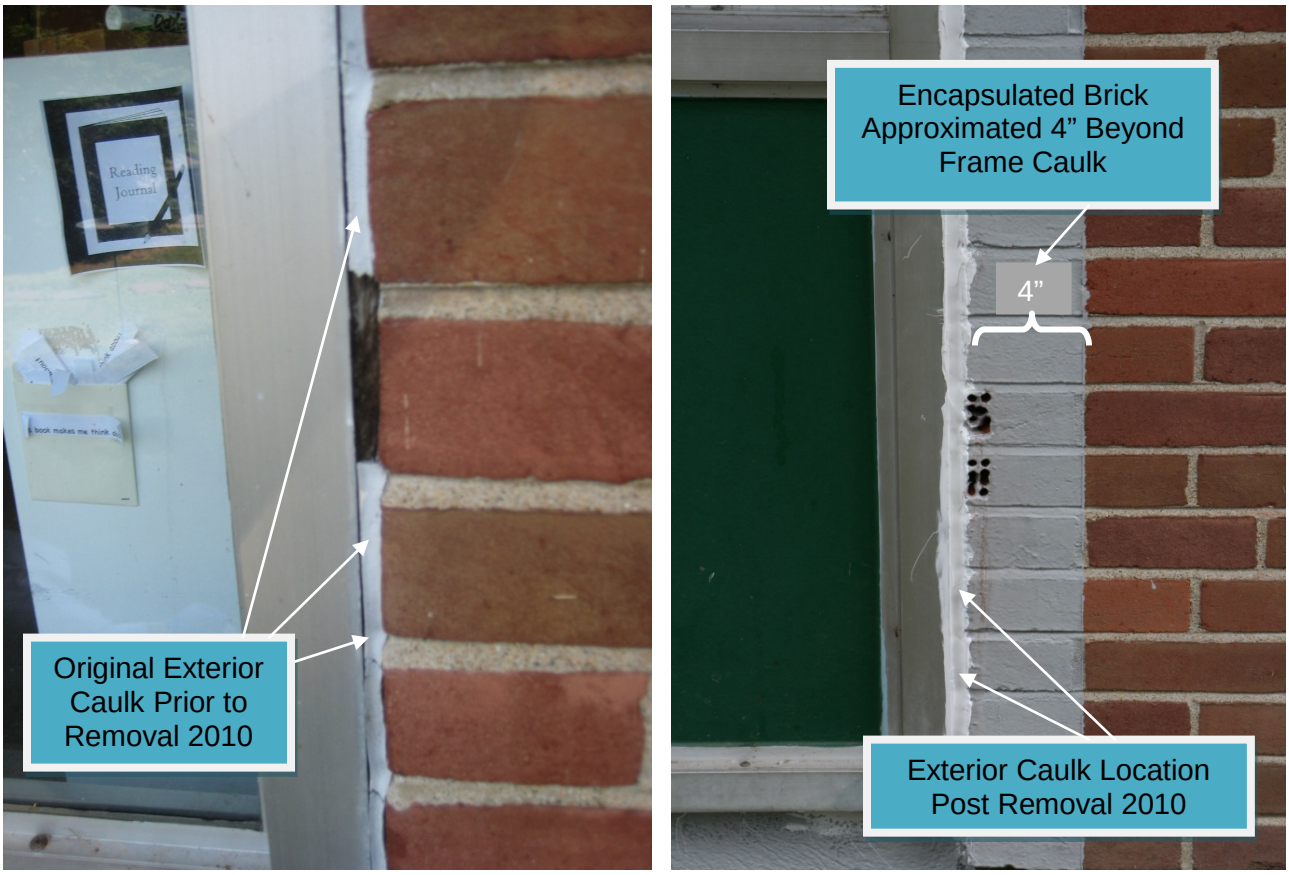
Photograph C.13 Example of Typical Floor Tile and Associated Mastic (concealed), at Caulk Joint (PCB Bulk Product Waste)

Photograph C.14 Stairway Unit with Painted Railings and Components

Photograph C.15 Yellow Paint, Hallway Janitor Closet and Adjacent Cement Walls (PCB Bulk Product Waste)

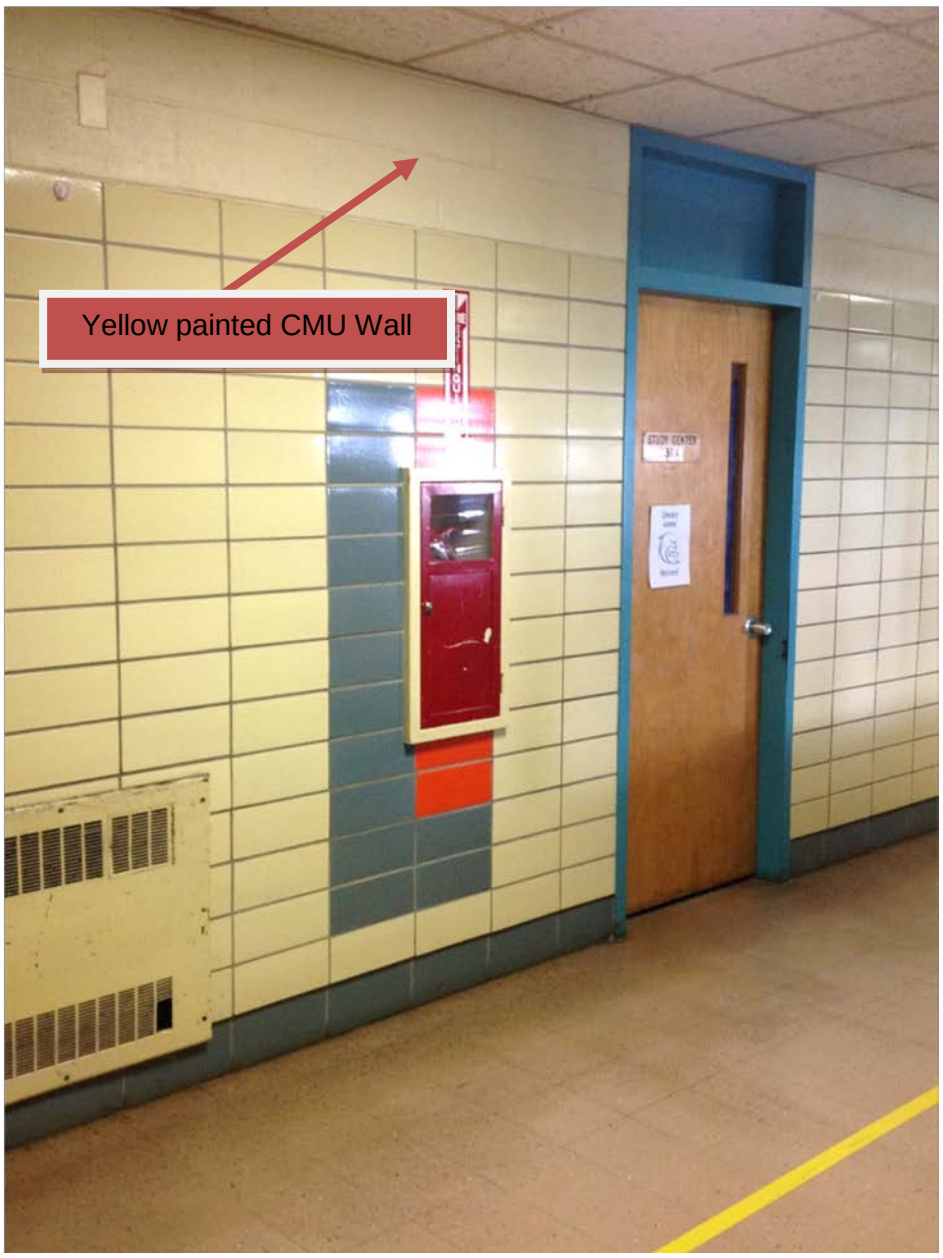
Photograph C.16 PCB Floor Paint, Foundation Floor, Landing Area Leading to Basement Boiler Room

BEFORE **AFTER**



Photograph C.17 Typical Caulking Detail Prior to Removal (2010), and with Encapsulation (Current)

Photograph C.18 Typical Detail of Windows and Building Façade Materials



Photograph C.19 Yellow Painted CMU (Excluded PCB Product), Hallway Area

Photograph C.20 Window Panel Enclosure (2010 Installation) Covering PCB Caulk

Photograph C.21 White and Orange Wall Paint (PCB Excluded Product)

APPENDIX D

COVER LETTERS
FOR NOTIFYING STATE AND LOCAL AGENCIES

ENVIRONMENTAL
HEALTH & ENGINEERING

Environmental Health
& Engineering, Inc.

117 Fourth Avenue
Needham, MA
02494-2725

TEL 800-825-5343
781-247-4300
FAX 781-247-4305

www.eheinc.com

July 30, 2013

Mr. Gerard Cody
Health Director
Town of Lexington
1625 Massachusetts Avenue
Lexington, MA 02420

RE: Written Notification for Removal of PCB- Containing Building Materials for Estabrook Elementary School, Lexington, Massachusetts (EH&E 18750)

Dear Mr. Cody:

To fulfill notification requirements of the U.S. Environmental Protection Agency (EPA) Title 40 Code of Federal Regulations (CFR) 761.61(a)(3)(i), please find the enclosed work plan for the removal of polychlorinated biphenyl (PCB)-containing building materials located at Estabrook Elementary School, Lexington, Massachusetts.

If you have any questions, please feel free to contact me at 1-800-TALK EHE (1-800-825-5343).

Sincerely,

Matt A. Fragala, MS, CIH
Senior Scientist/Project Manager

Enclosure

(Via FedEx Overnight Delivery)

ENVIRONMENTAL HEALTH & ENGINEERING

Environmental Health & Engineering, Inc.

117 Fourth Avenue
Needham, MA
02494-2725

TEL 800-825-5343
781-247-4300
FAX 781-247-4305

www.eheinc.com

July 30, 2013

Mr. Michael Hurley
Bureau of Waste Prevention
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

RE: Written Notification for Removal of PCB- Containing Building Materials for Estabrook Elementary School, Lexington, Massachusetts (EH&E 18750)

Dear Mr. Hurley:

To fulfill notification requirements of the U.S. Environmental Protection Agency (EPA) Title 40 Code of Federal Regulations (CFR) 761.61(a)(3)(i), please find the enclosed work plan for the removal of polychlorinated biphenyl (PCB)-containing building materials located at Estabrook Elementary School, Lexington, Massachusetts.

If you have any questions, please feel free to contact me at 1-800-TALK EHE (1-800-825-5343).

Sincerely,

Matt A. Fragala, MS, CIH
Senior Scientist/Project Manager

Enclosure

(Via FedEx Overnight Delivery)

APPENDIX E

SIGNED CERTIFICATION LETTER PER 761(A)(3)(E)

TOWN OF LEXINGTON
Department of Public Facilities

Patrick W. Goddard
Director of Public Facilities

Tel: (781) 274-8958
Email:pgoddard@lexingtonma.gov

June 7, 2013

Ms. Kimberly N. Tisa
PCB Coordinator
U.S. Environmental Protection Agency
Five Post Office Square, Suite 100
Mail Code OSRR07 -2
Boston, MA 02114-3912

RE: Written Certification for Document Filing for Remediation of PCB Building Materials, Estabrook Elementary School, Lexington, Massachusetts.

Dear Ms. Tisa:

In accordance with §761.61 (a)(3)(E), the owner, The Town of Lexington Massachusetts, will maintain a record of filings pertaining to the project involving the removal of PCB-containing building materials prior to demolition of the building at 117 Grove Street, Lexington, Massachusetts. The information to be kept on file will include; sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess PCB contamination. If alternate methods for chemical extraction and chemical analysis for site characterization are used, an addendum to this certification will be provided to the U.S. Environmental Protection Agency, and shall include a statement that such a method will be used, and that a comparison study which meets or exceeds the requirements of Subpart Q, §761.326, Conducting the comparison study, and for which records are on file, has been completed prior to verification sampling. These filings will be available for EPA inspection and will be kept at the following address below.

Town of Lexington
Facilities Department
201 Bedford Street
Lexington, MA 02420

Sincerely,

Patrick W. Goddard
Director of Public Facilities