Hazardous Building Materials Assessment Report
Former Liberty Street School

10 Liberty Street
Warren, RI

Rhode Island Department of Environmental Management

May 2012

FUSS & O'NEILL

317 Iron Horse Way Suite 204
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FUSS & O'NEILL

May 14, 2012

Ms. Cynthia Gianfrancesco
Principal Environmental Scientist
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, RI 02908

Re: Hazardous Building Materials Assessment
Former Liberty Street School, Warren, Rhode Island
Fuss & O'Neill, Inc. Project No. 20081593.B10

Dear Ms. Gianfrancesco:

The purpose of this letter is to present the enclosed *Hazardous Building Materials Assessment Report* for the former Liberty Street School located at 10 Liberty Street in Warren, Rhode Island. This hazardous building materials assessment was conducted on behalf of the Rhode Island Department of Environmental Management (RIDEM) at the request of the Town of Warren, under the Targeted Brownfield Assessment program. The objective of this assessment was to assist the Town of Warren in developing abatement strategy and cost estimate for hazardous building materials abatement activities warranted as part of future renovation of the 11,676-square foot, former school building.

The field and laboratory assessment activities detailed in the attached report were implemented in accordance with a USEPA-approved site-specific *Quality Assurance Project Plan (QAPP) Addendum* prepared in accordance with the USEPA Brownfields Quality Assurance Project Plan Guidance Document.

Please contact the undersigned if you have any questions or require additional information regarding this assessment.

Sincerely,

Patrick J. Dowling, CPG
Senior Project Manager

John A. Chambers, PG, LSP
Vice President

Attachments: *Limited Hazardous Building Materials Assessment Report*

cc: Caroline Wells, Town of Warren

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1 Introduction

On November 21 & 29, 2011, Fuss & O'Neill EnviroScience LLC (Fuss & O'Neill) representatives Mr. Dustin Diedricksen and Mr. Jonathan Hand performed hazardous building material assessment activities at the Former Liberty Street School located at 10 Liberty Street in Warren, Rhode Island (the site). The assessment included a limited asbestos assessment, lead-based paint determination, lead paint chip analysis, toxicity characteristic leaching procedure (TCLP) waste characterization, and polychlorinated biphenyl (PCB) building material assessment. Copies of Mr. Diedricksen's and Mr. Hand's asbestos inspector licenses are included in *Appendix A*.

This hazardous building material assessment was performed to identify and quantify possible hazardous building materials that may affect proposed future renovation of the school building. A definitive renovation or demolition plan was not available to Fuss & O'Neill at the time of this assessment. The work documented herein was performed on behalf of the Rhode Island Department of Environmental Management (RIDEM) for the Town of Warren (the Town), in accordance with a written scope of work detailed in the site-specific *Quality Assurance Project Plan Addendum* (*QAPP Addendum*) prepared by Fuss & O'Neill in October 2011 and approved by the United States Environmental Protection Agency (USEPA) and RIDEM on October 25, 2011.

2 Asbestos Assessment

A property owner must ensure that performance of a thorough inspection for asbestos-containing materials (ACM) is conducted prior to disturbance of materials potentially containing asbestos during renovation or demolition. This responsibility is a requirement of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulation 40 CFR Part 61, Sub-part M.

This EPA requirement includes friable, non-friable Category I, and non-friable Category II ACM. These terms are defined below:

- Friable ACM is defined as material that contains greater than 1% asbestos, which when dry, **can** be crumbled, pulverized, or reduced to powder by hand pressure.

- Category I Non-friable ACM refers to specific materials, including packings, gaskets, resilient floor coverings, and asphalt roofing products, which contain greater than 1% asbestos, that when dry **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.

- Category II Non-friable ACM refers to any non-friable materials, excluding Category I materials, which contain greater than 1% asbestos, that when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.

During the assessment documented herein, suspect ACM were separated into three other USEPA-defined categories. These categories are:

- Thermal System Insulation (TSI) - Includes all materials used to prevent heat loss or gain, or water condensation on mechanical systems. Examples of TSI are pipe insulation, boiler insulation, duct insulation, and mudded insulation on pipe fittings.

- Surfacing (SURF) ACM - Includes materials which are commonly used for fireproofing, decorative, and acoustical applications.

- Miscellaneous (MISC) ACM - Includes all ACM not categorized as thermal or surfacing ACM, such as linoleum, vinyl asbestos flooring, and ceiling tiles.

The USEPA recommends that representative samples of homogeneous building materials be collected in a manner sufficient to determine asbestos content The USEPA NESHAP regulation does not specifically identify a minimum number of samples to be collected, but recommends the use of sampling protocols included in 40 CFR Part 763, Sub-Part E - Asbestos Containing Materials in Schools.

During the assessment documented herein, samples of suspect ACM were collected in accordance with USEPA recommendations and Asbestos Hazard Emergency Response Act (AHERA) protocols. These protocols include the following:

1. SURF materials, such as plaster and spray-on fireproofing, were collected in a randomly-distributed manner representing each homogenous area based on the overall quantity, using the following sampling method:

    a. Three samples were collected from each homogenous area that was less than or equal to 1,000 square feet.

    b. Five samples were collected from each homogenous area that was greater than 1,000 square feet but less than or equal to 5,000 square feet.

    c. Seven samples were collected from each homogenous area that was greater than 5,000 square feet.

2. TSI materials, such as pipe and tank insulation, were collected in a randomly-distributed manner representing each homogenous area. Three samples were collected from each material. Also, a minimum of one sample of any patching materials applied to TSI was collected, as long as the patched area was less than six linear or square feet.

3. MISC materials, such as floor tile, gaskets, and construction mastics, were typically characterized by a minimum of two samples collected of each homogenous material type. Sampling was conducted in a manner sufficient to determine asbestos content of the homogenous material as determined by the inspector. If materials identified were of minimal quantity, only a single sample was collected.

The inspectors collected samples, documented sampling activities, and prepared chains of custody for transfer of the samples to an accredited laboratory for analysis by Polarized Light Microscopy (PLM). Asbestos samples were submitted to ESS Laboratory (ESS) of Cranston, Rhode Island who, in turn, subcontracted the analysis to EMSL Laboratory (EMSL) of Westmont, New Jersey for analysis.

A total of 182 samples, representing 57 different homogeneous, suspect ACM were collected and submitted for laboratory analysis. These samples were initially analyzed by EMSL Laboratory for

asbestos content by Polarized Light Microscopy (PLM), and the laboratory was directed to implement a "stop-positive" approach, during which they would suspend analysis of homogeneous sample materials upon confirmation that one sample of that homogeneous material was confirmed to contain asbestos at a concentration greater than 1%. This approach resulted in the analysis of 152 of the 182 samples originally requested for PLM analysis. Additionally, based on the PLM results, supplemental analyses were requested for verification purposes, as discussed further below.

The Fuss & O'Neill sampling locations, identification, and material type of each sample collected and analyzed by the laboratory are summarized in the ACM results *Tables 1* and *2* in *Section 2.1*, below

2.1 Results of Asbestos Analysis by PLM

The USEPA, Occupational Safety and Health Administration (OSHA), and the Rhode Island Department of Health (RIDOH) define any material that contains greater than one percent (>1%) asbestos, determined utilizing PLM, as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos.

Any building materials at the site not listed in the following tables should be considered suspect ACM until sample results prove otherwise. Refer to *Appendix B* for Asbestos PLM sample results and applicable data validation materials.

Utilizing the USEPA protocol and criteria, the materials included in *Table 1* were determined to be ACM:

TABLE 1
Asbestos Containing Materials and PLM Results

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	PLM RESULTS
Roof Cupola	Black Trim Caulk	1129JH-04A	8% Chrysotile
Roof Cupola	Residual White Louver Caulk	1129JH-05A	None Detected*
Roof	Skylight Glazing Compound	1129JH-06A	2% Chrysotile
Roof	Tan Chimney Flashing Sealant	1129JH-07A	5% Chrysotile
Roof	Silver Chimney Flashing Sealant Beneath Tan Flashing Sealant	1129JH-08A	4% Chrysotile
Low Metal Roof	Flashing Sealant	1129JH-13A	2% Chrysotile
Exterior – Window Header Overhang	Caulk	1129JH-14A	None Detected*
Exterior	White Window and Door Caulk Beneath Red Caulk	1129JH-16A	None Detected*

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	PLM RESULTS
1st Floor	Grey Window Glazing Compound	1129JH-17A	4% Chrysotile
1St Floor Bathroom off Room A/B, Kitchen, 2nd Floor	White Window Glazing Compound	1129JH-18A	None Detected*
1st Floor Room A/D	Black Mastic associated with Floor Tile	1129JH-26A	4% Chrysotile
1st Floor Room A/B	Black Sink Undercoat	1129JH-43A	5% Chrysotile
2nd Floor and Kitchen	Green with Dark Green and Pink Streaks 9x9 Floor Tile	1129JH-23A	12% Chrysotile
2nd Floor Room A/D	Green with Green and White Streaks 9x9 Floor Tile	1129JH-24A	6% Chrysotile
Basement	Air Cell Pipe TSI	1129JH-32A	20% Chrysotile
Basement	Mudded Fittings associated with AirCell Pipe TSI	1129JH-33A	12% Chrysotile
Boiler Room	Boiler Breeching TSI	1129JH-34A	10% Chrysotile
Boiler Room	Boiler Jacket TSI	1129JH-35A	15% Chrysotile
Attic Door	Transite Panel	1129JH-46	20% Chrysotile

*These non-fibrous samples were recommended for Transmission Electron Microscopy (TEM) analysis for verification, and results confirmed presence of asbestos above 1% (discussed further below).

Utilizing the USEPA protocol and criteria, the following materials were determined not to contain asbestos.

TABLE 2
Non-Asbestos Containing Materials

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.
Samples Collected November 29, 2011		
Roof	Grey Asphalt Shingle	1129JH-01 A-C
Roof	Black Roof Paper	1129JH-02 A-C
Roof Cupola	Black Siding Paper	1129JH-03 A-C
Roof	Tan Caulk at Metal Flue	1129JH-09 A-C*
Roof - Chimney with Metal Flue	Flue Cement	1129JH-10 A-C
Roof – Chimney with Liner	Flue Liner	1129JH-11 A-C
Roof – Chimney with Liner	Mortar	1129JH-12 A-C
1st Floor Bathroom off Room A/B	White Mastic Associated with Grey Vinyl Baseboard	1129JH-22 A-C*
1st Floor	Grey Mottled 12x12 Floor Tile	1129JH-25 A-C*

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.
1st Floor Hall	Brown Mastic Associated with Grey Mottled 12x12 Floor Tile	1129JH-27 A-C*
1st and 2nd Floor Bathrooms	Brown Wall Panel Glue	1129JH-28 A-C*
1st Floor Rooms A/B & A/D	Brown Cork Board Mastic	1129JH-30 A-C*
1st Floor Rooms A/B, A/D, and D	16x16 Smooth Ceiling Tile	1129JH-40 A-C
1st Floor Room B/C	Fire Door Insulation Paper	1129JH-44 A-B
1st Floor Hall, 1st Floor Stairs, and 2nd Floor Stairs	Ceiling Skim Coat (Swirl Pattern)	1129JH-50 A-C
1st Floor, 2nd Floor, and Attic	Wall Plaster Rough Coat	1129JH-51 A-G
1st Floor, 2nd Floor, and Attic	Plaster Wall Skim Coat (Stucco)	1129JH-52 A-G
Exterior	Red Window and Door Caulk	1129JH-15 A-C*
Front Door	Transom Window Glazing Compound	1129JH-41 A-B*
2nd Floor and Kitchen	Brown Vinyl Baseboard	1129JH-19 A-C*
2nd Floor and Kitchen	Brown Mastic Associated with Brown Vinyl Baseboard	1129JH-20 A-C*
Kitchen and 2nd Floor Room A/B	Yellow Wall Panel Glue	1129JH-29 A-C*
Basement and 2nd Floor	Joint Compound	1129JH-47 A-C**
2nd Floor and Attic	Ceiling Plaster Skim Coat	1129JH-56 A-G
2nd Floor and Attic	Ceiling Plaster Rough Coat	1129JH-57 A-G
Basement – Central Room	Floor Leveling Compound	1129JH-31 A-C
Basement – Central Room	Window Glazing Compound Associated with Interior Window	1129JH-42 A-B*
Basement – Girl's Bathroom	Stall Paper	1129JH-45 A-B
Boiler Room, Basement, and Kitchen	Drywall	1129JH-48 A-C
Basement	Grey Plaster Coating on Stone Walls	1129JH-49 A-E
Basement	Wall Plaster Rough Coat (No Skim)	1129JH-53 A-C
Basement	Ceiling Plaster Skim Coat	1129JH-54 A-C
Basement	Ceiling Plaster Rough Coat	1129JH-55 A-C
Boiler Room	Boiler Rib Caulk	1129JH-36 A-C
Boiler Room	Interior Boiler Debris	1129JH-37 A-C
Boiler Room	Boiler Brick	1129JH-38 A-C
Boiler Room – Boiler and Hot Water Tank	Grey Flue Cement	1129JH-39 A-C

*Non-fibrous material type confirmed as non-asbestos by additional TEM analysis
**Fibrous material type confirmed as non-asbestos by additional EPA 400 Point-Counting Method

Refer to *Appendix B* for Laboratory Analysis Results and applicable data validation materials.

2.2 Results of Supplemental Asbestos Analyses

Friable materials that are identified as containing less than ten percent (<10%) asbestos by PLM analysis are recommended by the USEPA to be analyzed further utilizing the EPA 400 point-counting technique to verify asbestos content, or a property owner may elect to presume the materials are asbestos containing based on the initial PLM results without the additional analysis by the USEPA 400 point-counting technique. Based on initial PLM results showing trace amounts (i.e. <1%) of asbestos chrysotile, samples 1129JH-47 A-B were analyzed by the 400 point-counting method for verification purposes. Based on the 400 Point Count results, these two samples were confirmed to be non-asbestos containing. The results of USEPA 400 point-counting analysis are summarized below in *Table 3*.

Additionally, the USEPA has suggested that materials that are non-friable organically-bound materials such as mastic adhesives, etc. are recommended for further confirmatory analysis utilizing Transmission Electron Microscopy (TEM). Seventeen of the samples analyzed by PLM were therefore also analyzed by TEM for verification purposes. The results of the TEM analysis, which are summarized below in *Table 3,* indicated that four of the seventeen samples originally reported as none detected by the PLM analysis, did in fact contain asbestos at concentrations greater than 1%, and were therefore categorized as ACM.

TABLE 3
Materials Analyzed By USEPA 400 Point Count or TEM

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	ASBESTOS CONTENT
Analysis of Samples by USEPA 400 Point-Counting			
Basement	Joint Compound	1129JH-47A	0.25% Chrysotile
Basement	Ceiling Joint Compound	1129JH-47B	<0.25% Chrysotile
Analysis of Samples by TEM			
Roof Cupola	Residual White Louver Caulk	1129JH-05A	4.1% Anthophyllite
Roof	Tan Caulk at Metal Flue	1129JH-09A	None Detected
Exterior – Window Header Overhang	Caulk	1129JH-14A	3.7% Chrysotile
Exterior	Red Window and Door Caulk	1129JH-15A	None Detected
Exterior	Red Window and Door Caulk	1129JH-15B	None Detected
Exterior	White Window and Door Caulk Beneath Red Caulk	1129JH-16A	7.2% Anthophyllite
Front Door	Transom Window Glazing Compound	1129JH-41A	None Detected

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	ASBESTOS CONTENT
1st Floor Bathroom off Room A/B, Kitchen, 2nd Floor	White Window Glazing Compound	1129JH-18A	5.7% Anthophyllite
1st Floor Bathroom off Room A/B	White Mastic Associated with Grey Vinyl Baseboard	1129JH-22A	None Detected
1st Floor	Grey Mottled 12x12 Floor Tile	1129JH-25A	None Detected
1st Floor Hall	Brown Mastic Associated with Grey Mottled 12x12 Floor Tile	1129JH-27A	None Detected
1st and 2nd Floor Bathrooms	Brown Wall Panel Glue	1129JH-28A	None Detected
1st Floor Rooms A/B & A/D	Brown Cork Board Mastic	1129JH-30A	None Detected
2nd Floor and Kitchen	Brown Vinyl Baseboard	1129JH-19A	None Detected
2nd Floor and Kitchen	Brown Mastic associated with Brown Vinyl Baseboard	1129JH-20A	None Detected
Kitchen and 2nd Floor Room A/B	Yellow Wall Panel Glue	1129JH-29A	None Detected
Basement – Central Room	Window Glazing Compound Associated with Interior Window	1129JH-42A	<1% Anthophyllite

The results of confirmatory analysis by EPA 400 point counting and TEM did identify asbestos at 1% or greater for some of the analyzed materials. These materials have been included in *Table 1* or, as appropriate, *Table 2* based on the confirmatory analyses. Refer to *Appendix C* for EPA 400 point counting results and *Appendix D* for TEM results, including applicable data validation materials.

2.3 Asbestos Analysis Conclusions

Materials confirmed to contain asbestos by the PLM, TEM, and 400 point count methods, along with an estimate of the quantity of those materials, are included in the *Table 4*, below. *Table 4* identifies the location, material type, and quantity of ACM identified during this assessment. Any suspect material not characterized during this assessment should be presumed to contain asbestos.

TABLE 4
Estimated Quantities of Asbestos Containing Materials

SAMPLED LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY
Roof Cupola	Black Trim Caulk	40 LF
Roof Cupola	Residual White Louver Caulk	80 LF
Roof	Skylight Glazing Compound	1 EA at 50 SF
Roof	Tan and Silver Chimney Flashing Sealant	50 LF
Exterior Sides B and D	Flashing Sealant Associated with Low Metal Roofs	24 LF
Exterior – Window Header Overhang	Caulk	200 LF
Exterior	White Window and Door Caulk Beneath Red Caulk	All Windows and Doors Approximately 95 EA
Throughout Building	Grey and White Window Glazing Compound	All Windows Approximately 86 EA
1st Floor	Black Mastic Associated with Grey Mottled 12x12 Floor Tile	2,100 SF
1st Floor Room A/B	Black Sink Undercoat	1 EA
2nd Floor and Kitchen	Green with Dark Green and Pink Streaks 9x9 Floor Tile and Associated Mastic	2,250 SF
2nd Floor	Green with Green and White Streaks 9x9 Floor Tile and Associated Mastic	900 SF
Basement	AirCell Pipe TSI and Associated Mudded Fittings	400 LF
Basement	Boiler Breeching TSI	10 LF at 10" Diameter
Basement	Boiler Jacket TSI	85 SF
Boiler Room	Visible Air Cell in Boiler	35 SF
Boiler Room and Attic	Transite Panels	50 SF

LF = Linear Feet, SF = Square Feet, EA = Each

Materials determined to contain asbestos that are anticipated to be impacted by any proposed renovation and or demolition work must be abated by a licensed asbestos abatement contractor prior to disturbance.

This includes both friable and non-friable ACM. This is a requirement of RIDOH, RIDEM, and USEPA NESHAP standards for asbestos abatement.

Fuss & O'Neill recommends that a comprehensive scope of work and technical specification be developed as part of renovation plans for the site. In addition, an asbestos abatement plan must be prepared and submitted to RIDOH for review and approval. The plan must be prepared by a certified asbestos project designer, and be approved prior to disturbance during demolition or renovations.

We have developed an opinion of cost for the removal of the identified ACM, which included as *Appendix I*. The estimated costs are inclusive of removing identified asbestos, and a more limited scope could be tailored to any specific renovation work as necessary.

Any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise.

3 Lead-Based Paint Screening

A lead-based paint determination was performed for representative building components by Fuss & O'Neill representatives Mr. Dustin Diedricksen and Mr. Jonathan Hand, on November 29, 2011. An X-ray fluorescence (XRF) analyzer was used as a field screening tool to perform the lead based paint determination. The testing was conducted in accordance with the protocol outlined in the site-specific *QAPP Addendum*.

The XRF utilized for the lead-based paint determination was an RMD X-Ray Fluorescence Analyzer, Serial No. 1138. The instrument was checked for proper calibration prior to use as detailed by the manufacturer and the Performance Characteristic Sheet (PCS) developed for the instrument.

For the purpose of this lead-based paint determination, representative building components were tested in situ. The tested components were selected by identifying homogenous painted surfaces by location to result in a representative evaluation of painted surfaces throughput the structure. Due to site conditions, the age of the building, and the limited nature of the lead-based paint determination conducted at the site, all individual repainting efforts were not discoverable, and therefore all historical painted surfaces may not have been included in the evaluation.

Lead-based paint issues involving properties that are not residential are regulated to a limited degree to protect workers involved in paint-disturbing work activities and waste disposal. Worker protection is regulated by OSHA regulations as well as RIDOH regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing lead-containing paint. A lead-based paint determination cannot determine a safe level of lead but is intended to provide guidance as to the locations of lead-based paint considered characteristic by industry standards for lead in paint. Contractors may then better determine exposure of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead exceeding the lead-free standard of 150 milligrams per kilogram (mg/kg) is considered lead paint in accordance with RIDOH regulations for residential dwelling units and child care

facilities. Use of XRF alone for testing cannot fully determine compliance with the lead-free standards. As an industry standard, painted surfaces with an XRF screening result greater than 1.0 milligram of lead per square centimeter (mg/cm2) are typically expected to exceed the lead-free standard of 150 mg/kg. Screening results less than 1.0 mg/ cm^2 typically require collection and laboratory analysis of paint chip samples for confirmation of the lead concentration by mass. For purposes of this lead-based paint determination, the level of 1.0 mg/cm^2 was utilized as a threshold for areas where possible worker exposures may occur.

3.1 Lead-Based Paint Screening Results

The complete field screening results of the lead-based paint determination documented herein are included in *Appendix E*, and summarized below. The lead-based paint determination indicated consistent painting trends associated with representative building components that may be impacted by possible renovation work. Numerous painted components were determined to contain levels of lead greater than 1.0 mg/cm^2, including the following:

TABLE 5
Lead XRF Screening Results

LOCATION	ITEM	XRF READING (mg/cm^2)
Exterior	Soffit	4.3 - >9.9
Exterior	Cupola	4.3 - >9.9
Exterior	Window Sill and Header	1.4
Exterior	D2 Door Frame	5.8
Exterior Side B & D	Low Metal Roof	>9.9
Exterior Side B & D	Fire Escape Supports	2.9
Exterior Side B & D	Fire Escape Stringer	8.9
Exterior Main Entry	Decorative Casing	>9.9
Exterior Main Entry	Door	2.5
Exterior Main Entry	Door Frame	>9.9
Basement Boys Bathroom	Cast Iron Sink	>9.9
Basement Boys Bathroom	Window Frame	9.6
Basement Hall Side B	Beadboard Door	5.2
Basement Girl's Bathroom	Door Frame	>9.9
Basement Carpet Room	D1 Door	7.3
Basement Room off Boy's Bathroom	C1 Door	>9.9
Basement Room off Boy's Bathroom	Lally Column	9.1
Boiler Room	Door	1.9

LOCATION	ITEM	XRF READING (mg/cm²)
Boiler Room	D3 Window Frame	>9.9
Main Entry Hall	A1 Door Frame	>9.9
Main Entry Hall	Chair Rail	>9.9
Main Entry Hall	Lower Wall	3.8
1st Floor Room A/B	Lower Wall	>9.9
1st Floor Room A/B	Baseboard	>9.9
1st Floor Room A/B	Ceiling	POS
1st Floor Room A/B	Chair Rail	>9.9
1st Floor Hall	B1 Door Frame	3.8
1st Floor Hall	Upper Walls	4.9
1st Floor Hall	Lower Walls	>9.9
1st Floor Hall	Chair Rail	1.7
1st Floor Hall	Baseboard	3.7
1st Floor Room C/D	Upper Wall	1.0
1st Floor Room C/D	Cast Iron Sink	>9.9
1st Floor Room D/A	Lower Wall	>9.9
1st Floor Room D/A	Baseboard	>9.9
1st Floor Room D/A	Ceiling	POS
2nd Floor Room A/B	Chair Rail	1.2
2nd Floor Hall	Upper Wall	4.6
2nd Floor Hall	Lower Wall	>9.9
2nd Floor Hall	Chair Rail	>9.9
2nd Floor Hall	Baseboard	>9.9
2nd Floor Hall	C1 Door and Frame	>9.9
2nd Floor Room C/D	Upper Wall	0.5 – 1.2
2nd Floor Room C/D	Ceiling	POS

POS = Assumed Positive

3.2 Lead-Based Paint Screening Conclusions

The present vacancy of the building does not currently subject this facility to the requirements of the RIDOH Rules and Regulations for Lead Poisoning Prevention R23-24.6-PB. The results of the testing performed using XRF for this presently non-regulated facility were intended to provide documentation for potential worker exposures and for waste characterization purposes during any proposed renovation activities. Building components containing lead may cause exposures to workers above OSHA standards during demolition and renovation activities.

OSHA published a Lead in Construction Standard (OSHA Lead Standard) 29 CFR 1926.62 in May 1993. The OSHA Lead Standard has no set limit for the content of lead in paint below which the standards do not apply. The OSHA Lead Standards are task-based and are based on airborne exposure and blood lead levels. Contractors must comply with exposure assessment criteria, interim worker protection, and other requirements of the regulation as necessary to protect workers during any renovation work which will impact lead paint.

Lead paint was identified on the numerous building components listed in *Table 5*. The lead screening was carried out as part of a preliminary investigation for renovation planning purposes. However, Fuss & O'Neill understands that there are no definitive demolition or renovation activities scheduled at this time. Any future work involving surface preparation or demolition of the identified lead-painted surfaces should be performed in accordance with OSHA worker protection requirements.

4 Waste Characterization for Lead

A waste is a solid or liquid material that one no longer uses. A waste is defined by USEPA in the Resource Conservation and Recovery Act (RCRA) to be hazardous if it contains certain properties that could pose dangers to human health or the environment after it is discarded. Wastes that are ignitable, corrosive, reactive, or contain certain toxic metals or chemicals are regulated under the USEPA Hazardous Waste Regulations. The Toxicity Characteristic Leaching Procedure (TCLP) is a sample preparation method utilized in RCRA hazardous waste determinations, that extracts the compounds of interest in a manner that simulates landfill conditions (40 CFR 261).

To determine if a building material waste stream generated during renovation or demolition activities may be considered a hazardous waste due to the presence of lead based paint, representative samples of the waste stream would need to be analyzed for TCLP lead. The analytical results are then compared to a concentration of 5.0 milligrams per liter (mg/L) which is the hazardous waste threshold under RCRA. If the result is below the established level, the material may not require management as a hazardous waste.

4.1 Lead Waste Characterization Sampling

On November 29, 2011, Fuss & O'Neill representatives, Mr. Dustin A. Diedricksen and Mr. Jonathan Hand, collected representative aliquots of various materials from the building. Painted material substrates such as concrete, wood, and sheetrock were segregated in accordance with previous lead paint screening data and representative composite samples were collected. In total, two samples, including one primary and one duplicate sample, were collected and submitted for analysis for lead by USEPA SW-846 methods, utilizing the TCLP extraction process at ESS Laboratory.

These samples were collected to characterize a potential waste stream that may result from selective demolition and/or renovation work at the site. While these composite samples may not specifically represent the actual waste stream generated during any future renovation activities, they were collected to gauge the potential for the lead concentrations in painted surfaces in typical building materials to cause the anticipated waste stream to require management as a hazardous waste.

4.2 Lead Waste Characterization Results

The laboratory report for the waste characterization TCLP lead analysis and applicable data validation materials are provided as *Appendix F* in this report. The results of the primary and duplicate composite TCLP lead analyses are summarized below.

TABLE 6
TCLP Lead Waste Characterization Results

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	RESULT (mg/L)
Building	Composite	1129JH-TCLP-01	0.042
Building Duplicate	Composite	1129JH-TCLP-02	0.041

4.3 Lead Waste Characterization Conclusion

RCRA defines a hazardous concentration for lead as greater than 5.0 mg/L. The analytical results for the composite sample of building materials indicated a concentration of lead significantly less than the RCRA threshold for a hazardous waste. This result suggests that a building material waste stream consistent with the types and ratio of materials represented by the composite sample would not likely require disposal as a hazardous waste.

At such a time when renovations or demolition activities are conducted at the site, additional characterization of the generated waste stream may be necessary.

5 Lead Paint Chip Analysis

5.1 Lead Paint Chip Sampling

On November 29, 2011, Fuss & O'Neill representative, Mr. Jonathan Hand, collected a total of 11 paint chip samples, including 10 primary and 1 duplicate sample, from representative surfaces throughout the site building. Paint chip samples were collected using the following procedures to confirm lead content identified with XRF.

a. Paint chips from targeted surfaces were carefully loosened and removed using a hand scraper. Plastic was placed under areas to be tested to prevent release of chips to the ground. The surfaces sampled were chosen based on the XRF screening results discussed in *Section 3*. Painted surfaces that elicited an XRF response close to the threshold value of 1.0 mg/cm² were targeted for laboratory analysis, as well as a collection of confirmatory samples which elicited an XRF screening result greater than 1.0 mg/cm².

b. A section of paint two inches by two inches was removed. All layers down to, but not including, the substrate were included in the sample.

c. Each sample was individually containerized and identified with a unique sample number to designate the location of the sample.

d. The samples were submitted to ESS Laboratory using proper chain of custody for Atomic Absorption Spectrometry analyses for lead by Method 6010B.

5.2 Lead Paint Chip Results

Analytical results, chains of custody, and applicable data validation materials for the paint chip sampling activities can be found in *Appendix G*. The laboratory analytical results are summarized in *Table 7,* which identifies the samples by location, sample number, and lead content.

As depicted in the table below, the laboratory was requested to report the lead results in two formats, a total (or mass-based) concentration, and an area-based concentration. Area-based concentrations were calculated based on a given sample area of 25.8 cm^2 (i.e. 2 inches by 2 inches).

TABLE 7
Paint Chip Sample Lead Results

SAMPLE LOCATION	MATERIAL	SAMPLE NUMBER	AREA LEAD RESULT (mg/cm^2)	TOTAL LEAD RESULT (mg/kg)
Entry	Upper Wall	1129JH-PC-01	0.083	**4,180**
1st Floor Room A/B	Window Casing	1129JH-PC-02	0.031	**1,560**
1st Floor Hall	Chair Rail	1129JH-PC-03	0.017	**813**
1st Floor Room C/D	Upper Wall	1129JH-PC-04	**0.106**	**5,240**
1st Floor Room D/A	Upper Wall	1129JH-PC-05	0.074	**3,280**
1st Floor Hall	Newel Post	1129JH-PC-08	0.036	**1,660**
1st Floor Room D/A	Upper Wall Duplicate	1129JH-PC-11	0.059	**2,940**
2nd Floor Room A/B	Chair Rail	1129JH-PC-06	**0.454**	**23,000**
2nd Floor Room C/D	Window Components	1129JH-PC-07	0.004	323
Boiler Room	Door	1129JH-PC-09	0.0005	256
Exterior	Soffit	1129JH-PC-10	**2.46**	**127,000**

These analytical laboratory results were compared to the RIDOH standards for lead-free and lead safe concentrations. RIDOH classifies paint to be lead-free when the lead concentration is less than 150 mg/kg. Paint containing lead at concentrations greater than 150 but less than 600 mg/kg is considered by RIDOH as lead-safe. Paint containing lead at concentrations in excess of 600 mg/kg that is intact is also considered by RIDOH as lead safe. **The results in *Table 7* in bold text exceed 600 mg/kg.**

The cost estimate included in *Appendix I* includes estimated allowances for OSHA lead compliance during renovation and demolition work as well as potential disposal of lead waste from demolition and disposal of removed components and surfaces.

6 Polychlorinated Biphenyls (PCBs) Assessment

6.1 Background

Chemical analysis of building materials for PCBs is not presently mandated by the USEPA or state environmental agencies by regulation. However, significant liability risk for improperly disposing of a PCB-containing waste material exists. Recent knowledge and awareness of PCBs within matrices such as caulking, glazing compounds, paints, adhesives, and ceiling tiles has become more prevalent, especially amongst remediation contractors, waste haulers, and disposal facilities. Many property owners have become subject to large changes in schedule, scope, and costs as a result of failing to identify these possible contaminants prior to the commencement of renovation or demolition activities.

The USEPA considers the presence of PCBs in building materials as an unauthorized use, and requires removal of PCBs once identified regardless of project intent. In other words, if buildings are to remain for re-use and PCBs are identified, the USEPA requires removal of the PCB materials once it is determined to be present regardless whether those materials are proposed for removal or replacement. In addition to identification of source materials containing PCBs, if PCBs are present at certain concentrations, additional testing of adjacent surfaces in contact with PCB sources or which may have been contaminated from a source of PCBs must also be performed.

USEPA requirements apply only if the PCBs originated from materials with a regulated PCB concentration or are present in concentrations above a regulated concentration. Presently materials containing PCBs at concentrations equal to or greater than (≥) 50 parts per million (ppm) or equivalent units of mg/kg are regulated. Materials containing PCBs at concentrations between 1 ppm and 50 ppm may also be regulated unless proven to be an "Excluded PCB Product". The definition of an Excluded PCB Product includes those products or the source of the products that contain a concentration of PCBs <50 ppm that were legally manufactured, processed, distributed in commerce, or used before October 1, 1984.

6.2 PCB Assessment Sampling

On November 21 & 29, 2011, Fuss & O'Neill representatives, Mr. Dustin A. Diedricksen and Mr. Jonathan Hand, collected 26 bulk samples of building materials to be analyzed for PCBs. Multiple samples of each homogeneous material type were typically collected for quality control purposes, as

detailed in the *QAPP Addendum*. Additionally, the 26 samples included 2 duplicate samples collected and analyzed for further quality control purposes.

Sampling involved removal of bulk product materials (source materials) using hand tools for laboratory analysis to determine PCB content. Tools utilized to collect samples were disposable items and discarded after each individual sample was collected to avoid cross contamination of samples. Each sample was placed in an individual container, labeled, and delivered to ESS Laboratory using appropriate chain of custody procedures. The analytical method for analysis included USEPA extraction method 3540C (Soxhlet) and analysis method 8082.

6.3 PCB Assessment Results

Laboratory results of samples analyzed for PCBs and applicable data validation materials are included in *Appendix H*. The following table summarizes the 26 samples by location, material type, sample number, and reported PCB concentration.

TABLE 8
PCB Bulk Sample Results

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	PCB CONTENT (mg/kg)
Exterior Side B	Red Window Caulk	1129JH-PCB-02A	ND < 0.0990
Exterior Side D	Red Window Caulk	1129JH-PCB-02B	ND < 0.0990
Exterior Side B	Red Door Caulk	1129JH-PCB-02C	ND < 0.0935
Exterior Side B	White Window Caulk Beneath Red	1129JH-PCB-03A	ND < 0.485
Exterior Side D	White Window Caulk Beneath Red	1129JH-PCB-03B	ND < 0.500
Exterior Side B	White Door Caulk Beneath Red	1129JH-PCB-03C	ND < 1.00
Front Door	Transom Window Glazing Compound	1129JH-PCB-04	**1.418**
Roof Cupola	Black Base Trim Caulk	1129JH-PCB-05	ND < 0.0962
Roof Cupola	Residual White Louver Caulk	1129JH-PCB-06	ND < 0.0962
Roof	Skylight Glazing Compound	1129JH-PCB-07A	ND < 0.741
Roof	Skylight Glazing Compound	1129JH-PCB-07B	ND < 0.0971
Roof	Skylight Glazing Compound	1129JH-PCB-07C	ND < 0.980
Roof	Skylight Glazing Compound (Duplicate)	1129JH-PCB-07D	ND < 0.0917
Roof	Tan Chimney Flashing Sealant	1129JH-PCB-08A	ND < 0.0990

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	PCB CONTENT (mg/kg)
Roof	Tan Chimney Flashing Sealant	1129JH-PCB-08B	ND < 0.103
Roof	Tan Chimney Flashing Sealant	1129JH-PCB-08C	ND < 0.0990
Roof	Black Roof Paper	1129JH-PCB-09A	ND < 0.200
Roof	Black Roof Paper	1129JH-PCB-09B	ND < 0.196
Roof	Black Roof Paper	1129JH-PCB-09C	0.206
Roof Chimney	Metal Flue Caulk	1129JH-PCB-10A	ND < 0.0962
Roof Chimney	Metal Flue Caulk	1129JH-PCB-10B	ND < 0.200
Lower Metal Roof	Flashing Sealant	1129JH-PCB-01	ND < 1.03
1st Floor Side A Window 2	Window Glazing Compound	1129JH-PCB-11A	0.304
1st Floor Kitchen Side B Window 2	Window Glazing Compound	1129JH-PCB-11B	ND < 0.962
2nd Floor Side C Window 6	Window Glazing Compound	1129JH-PCB-11C	ND < 0.909
2nd Floor Side C Window 6	Window Glazing Compound (Duplicate)	1129JH-PCB-11D	ND < 0.980

ND<# = Not detected above the laboratory reporting limit of #
Results highlighted in bold text are less than 50 mg/kg but greater than 1 mg/kg PCBs

6.4 PCB Assessment Conclusions

Fuss & O'Neill performed an evaluation of specific suspect building materials for the presence of PCBs. The results of this assessment indicated that none of the samples analyzed for PCBs was reported by the laboratory to contain a concentration of PCBs greater than the USEPA regulated concentration of 50 mg/kg. Additionally, none of the samples, with one exception (indicated in boldface type in Table 8), were reported to contain a concentration of PCBs greater than 1 mg/kg.

The only building material sample reported to contain a PCB concentration greater than 1 mg/kg was a glazing compound located in the front entry door transom window. The reported concentration of 1.418 mg/kg, was less than 50 mg/kg, which is the USEPA threshold for a PCB Bulk Product Waste. Based on our observations of the type and location of this material, we have concluded that the source of PCBs in excess of 1 mg/kg meets the definition of an "Excluded PCB Product" in accordance with the definition in 40 CFR 761.3 because the glazing compound is associated with an original historic door system installed prior to 1984. Therefore, this material would not warrant management as a TSCA regulated PCB waste. However, it must be disposed of as a PCB containing material with a PCB concentration less than 50 mg/kg at a landfill facility licensed to accept such waste.

Appendix A

Asbestos Inspector Licenses and Certifications

Rhode Island Department of Health

Asbestos Program

Consultants-Inspector

JONATHAN HAND

Exp. Date: 02/28/2013
License #: AAC-0798
Member of C.O.N.E.S.

Rhode Island Department of Health

Asbestos Program

Consultants-Project Designer

DUSTIN DIEDRICKSEN

Exp. Date: 03/21/2012
License #: AAC-0769

Member of C.O.N.E.S.

Appendix B

Asbestos PLM Laboratory Analytical Results

Modified Tier II
Data Validation Narrative

Project: 20081593.B10, Former Liberty Street School

EMSL Laboratory Project Numbers:	041131371 and 041131910
Date Samples Received at Laboratory:	December 1, 2011
Date of Review:	February 20, 2012

On December 1, 2011, EMSL Analytical, Inc. (EMSL) received 182 bulk building materials samples from Fuss & O'Neill, care of ESS Laboratory. The samples were submitted to EMSL for analysis of asbestos content using a variety of analytical methods.

Initially, the samples were analyzed via polarized light microscopy (PLM) using procedures documented in United States Environmental Protection Agency (USEPA) Method 600/R-93/116. Following initial analysis, on December 8, 2011, Fuss & O'Neill requested that two samples be additionally analyzed via PLM 400 Point Count using procedures documented in USEPA Method 600/R-93/116. Seventeen samples were also requested for analysis via Transmission Electron Microscopy and the Chatfield Method.

Analytical results were expressed in percent asbestos content, with a quantification limit of <1%. The correct samples were analyzed via the appropriate requested methods. When appropriate and as requested by Fuss & O'Neill, analyses of samples comprising a sample group of the same material were stopped upon confirmation that an initial sample in the group contained asbestos.

Transcription errors resulted in multiple erroneous sample location and/or material type references for select samples documented in analytical report 041131371. However, asbestos was not detected in any of the samples affected by these errors; neither in the samples themselves, nor in the materials erroneously referred to in the sample descriptions. As such, these transcription errors did not affect the overall usability of the asbestos data.

No other significant laboratory non-conformances or deviations from the *Site-Specific QAPP Addendum* were noted for the asbestos samples and analyses. According to the case narratives and the *Modified Tier II Data Validation Checklist* associated with these analytical reports, analyses of batch blanks, laboratory duplicates, and laboratory control samples were performed and within acceptable quality control range. In summary, the asbestos data were considered usable for the purposes of quantifying asbestos content in the sampled building materials and developing a cost estimate for abatement activities.

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-0235

January 18, 2012

Karron Redfield
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Re: **Narrative EMSL Order ID 041131371**

Dear Karron

On December1, 2011 EMSL Analytical, Inc.(Woburn, MA) received 182 bulk samples for the 20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL project . These samples were sent by overnight shipping carrier to EMSL-Cinnaminson, NJ. The EMSL NJ lab accepted these samples and received them on December 1, 2011. All samples were logged in following normal lab procedures and were received in acceptable condition. All 182 samples were present and in acceptable condition.

PLM EPA 600/R-93/11 –116
The bulk samples were analyzed via polarized light microscopy (PLM) using the procedures from the EPA 600/R-93/116 method. All data was reported on a %asbestos basis with a limit of quantification for this method of <1%. Positive stops as well as sample layers were established by the client.

Daily lab blanks, scope alignments, inter and intra QC analysis were performed in accordance with EMSL's QC SOP. All QC data was deemed as acceptable.

PLM EPA 400 Point Count via EPA 600/R-93/11 –116
Based upon the initial PLM sample results, two client selected bulk samples were requested to be analyzed using PLM EPA 400 Point Count technique, using the procedures from the EPA 600/R-93/116 method. All data was reported on a %asbestos basis with a limit of quantification for this method of <0.25%. Positive stops as well as sample layers were established by the client.

Daily lab blanks, scope alignments, inter and intra QC analysis were performed in accordance with EMSL's QC SOP. All QC data was deemed as acceptable.

Stephen Siegel, CIH
Asbestos Lab Manager
EMSL Cinnaminson, NJ

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: cinnasblab@EMSL.com

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Fuss & O'Neill EnviroScience, LLC
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Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
Customer PO:
Received: 12/01/11 9:40 AM
EMSL Order: 041131371

EMSL Proj:
Analysis Date: 12/5/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-01A *041131371-0001*	ROOF - GREY TAR SHINGLE	Gray Fibrous Heterogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
1129JH-01B *041131371-0002*	ROOF - GREY TAR SHINGLE	Gray Fibrous Heterogeneous	20%	Glass	80%	Non-fibrous (other)	**None Detected**
1129JH-01C *041131371-0003*	ROOF - GREY TAR SHINGLE	Black Non-Fibrous Homogeneous	15%	Glass	85%	Non-fibrous (other)	**None Detected**
1129JH-02A *041131371-0004*	ROOF - BLACK ROOF PAPER	Black Fibrous Heterogeneous	55%	Cellulose	45%	Non-fibrous (other)	**None Detected**
1129JH-02B *041131371-0005*	ROOF - BLACK ROOF PAPER	Black Fibrous Heterogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
1129JH-02C *041131371-0006*	ROOF - BLACK ROOF PAPER	Black Non-Fibrous Homogeneous	50%	Cellulose	50%	Non-fibrous (other)	**None Detected**
1129JH-03A *041131371-0007*	ROOF CUPPOLA - BLANK SIDING PAPER	Black Fibrous Heterogeneous	5% 50%	Synthetic Cellulose	45%	Non-fibrous (other)	**None Detected**

Initial report from 12/05/2011 20:55:55

Analyst(s)

Christopher Mercer (19) *Juli Patel (9)* *Samantha Runds*
Christina Walker (27) *Phong Nguyen (61)*

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

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Attn: **Karron Redfield**
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Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
Customer PO:
Received: 12/01/11 9:40 AM
EMSL Order: 041131371

EMSL Proj:
Analysis Date: 12/5/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-03B *041131371-0008*	ROOF CUPPOLA - BLANK SIDING PAPER	Black Fibrous Heterogeneous	20% 5%	Cellulose Synthetic	75%	Non-fibrous (other)	**None Detected**
1129JH-03C *041131371-0009*	ROOF CUPPOLA - BLANK SIDING PAPER	Black Non-Fibrous Homogeneous	40% 10%	Cellulose Synthetic	50%	Non-fibrous (other)	**None Detected**
1129JH-04A *041131371-0010*	ROOF CUPPOLA - BLACK TRIM CAULK	Black Non-Fibrous Heterogeneous			92%	Non-fibrous (other)	**8% Chrysotile**
1129JH-04B *041131371-0011*	ROOF CUPPOLA - BLACK TRIM CAULK						**Stop Positive (Not Analyzed)**
1129JH-04C *041131371-0012*	ROOF CUPPOLA - BLACK TRIM CAULK						**Stop Positive (Not Analyzed)**

Initial report from 12/05/2011 20:55:55

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Stephen Siegel, CIH, Laboratory Manager
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**		**% Type**
1129JH-05A *041131371-0013*	ROOF CUPPOLA - RESIDUAL WHITE LOWER CAULK	White Non-Fibrous Heterogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-05B *041131371-0014*	ROOF CUPPOLA - RESIDUAL WHITE LOWER CAULK	White Non-Fibrous Heterogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-05C *041131371-0015*	ROOF CUPPOLA - RESIDUAL WHITE LOWER CAULK	Gray/White Non-Fibrous Homogeneous	suggest TEM	100%	Non-fibrous (other)	**None Detected**
1129JH-06A *041131371-0016*	ROOF - SKYLIGHT GLAZING COPOUND	Brown Non-Fibrous Homogeneous		98%	Non-fibrous (other)	**2% Chrysotile**
1129JH-06B *041131371-0017*	ROOF - SKYLIGHT GLAZING COPOUND					**Stop Positive (Not Analyzed)**

Initial report from 12/05/2011 20:55:55

Analyst(s)

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**		**% Type**
1129JH-06C *041131371-0018*	ROOF - SKYLIGHT GLAZING COPOUND					**Stop Positive (Not Analyzed)**
1129JH-07A *041131371-0019*	ROOF - TAN CHIMNEY FLASHING SEALANT	Gray Fibrous Heterogeneous		95%	Non-fibrous (other)	**5% Chrysotile**
1129JH-07B *041131371-0020*	ROOF - TAN CHIMNEY FLASHING SEALANT					**Stop Positive (Not Analyzed)**
1129JH-07C *041131371-0021*	ROOF - TAN CHIMNEY FLASHING SEALANT					**Stop Positive (Not Analyzed)**
1129JH-08A *041131371-0022*	ROOF - SILVER CHINMEY FLASHING SEALANT	Silver Non-Fibrous Heterogeneous		96%	Non-fibrous (other)	**4% Chrysotile**
1129JH-08B *041131371-0023*	ROOF - SILVER CHINMEY FLASHING SEALANT					**Stop Positive (Not Analyzed)**

Initial report from 12/05/2011 20:55:55

Analyst(s)

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EMSL Proj:
Analysis Date: 12/5/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-08C *041131371-0024*	ROOF - SILVER CHINMEY FLASHING SEALANT						**Stop Positive (Not Analyzed)**
1129JH-09A *041131371-0025*	ROOF - TAN CAULK @ METAL FLUE	Tan Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-09B *041131371-0026*	ROOF - TAN CAULK @ METAL FLUE	Brown Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-09C *041131371-0027*	ROOF - TAN CAULK @ METAL FLUE	Brown/Various Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-010A *041131371-0028*	ROOF CHIMNEY W/ METAL FLUE - FLUE CEMENT	Tan Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-010B *041131371-0029*	ROOF CHIMNEY W/ METAL FLUE - FLUE CEMENT	Tan Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

Initial report from 12/05/2011 20:55:55

Analyst(s)

Christopher Mercer (19) *Juli Patel (9)* *Samantha Runds*
Christina Walker (27) *Phong Nguyen (61)*

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**		**% Type**
1129JH-010C *041131371-0030*	ROOF CHIMNEY W/ METAL FLUE - FLUE CEMENT	Tan/White Non-Fibrous Heterogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-011A *041131371-0031*	ROOF CHIMNEY W/ LINER - FLUE LINER	Red/Orange Non-Fibrous Heterogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-011B *041131371-0032*	ROOF CHIMNEY W/ LINER - FLUE LINER	Red/Orange Non-Fibrous Heterogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-011C *041131371-0033*	ROOF CHIMNEY W/ LINER - FLUE LINER	Red/Black Non-Fibrous Homogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-012A *041131371-0034*	ROOF CHIMNEY W/ LINER - MORTAR	Beige/Grayish Non-Fibrous Heterogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-012B *041131371-0035*	ROOF CHIMNEY W/ LINER - MORTAR	Beige/Grayish Non-Fibrous Heterogeneous		100%	Non-fibrous (other)	**None Detected**
1129JH-012C *041131371-0036*	ROOF CHIMNEY W/ LINER - MORTAR	Gray/Beige Non-Fibrous Homogeneous		100%	Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-013A *041131371-0037*	LOW METAL ROOF - FLASHING SEALANT	Silver Non-Fibrous Heterogeneous		98% Non-fibrous (other)	**2% Chrysotile**
1129JH-013B *041131371-0038*	LOW METAL ROOF - FLASHING SEALANT				**Stop Positive (Not Analyzed)**
1129JH-013C *041131371-0039*	LOW METAL ROOF - FLASHING SEALANT				**Stop Positive (Not Analyzed)**
1129JH-014A *041131371-0040*	EXTERIOR - WINDOW HEADER OVERHANG CAULK	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-014B *041131371-0041*	EXTERIOR - WINDOW HEADER OVERHANG CAULK	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-014C *041131371-0042*	EXTERIOR - WINDOW HEADER OVERHANG CAULK	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-015A *041131371-0043*	EXTERIOR SIDE D - WINDOW CAULK RED	Red Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
			Sample 15-A is a red caulk yet sample 15-B is a gray caulk.		
1129JH-015B *041131371-0044*	EXTERIOR SIDE B - WINDOW CAULK RED	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
			Sample 15-A is a red caulk yet sample 15-B is a gray caulk.		
1129JH-015C *041131371-0045*	EXTERIOR SIDE D - DOOR CAULK RED	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-016A *041131371-0046*	EXTERIOR SIDE D - WINDOW CAULK WIHTE UNDER RED	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-016B *041131371-0047*	EXTERIOR SIDE B - WINDOW CAULK WIHTE UNDER RED	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-016C *041131371-0048*	EXTERIOR SIDE D - DOOR CAULK WHITE UNDER RED	Gray/Tan Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-017A *041131371-0049*	1ST FLOOR - GREY WINDOW GLAZING COMPOUND	Gray Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
1129JH-017B *041131371-0050*	1ST FLOOR TEACHER BATH - GREY WINDOW GLAZING COMPOUND				**Stop Positive (Not Analyzed)**
1129JH-017C *041131371-0051*	2ND FLOOR - GREY WINDOW GLAZING COMPOUND				**Stop Positive (Not Analyzed)**
1129JH-018A *041131371-0052*	1ST FLOOR GIRLS BATH - WHTIE WINDOW GLAZING COMPOUND	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-018B *041131371-0053*	KITCHEN - WHTIE WINDOW GLAZING COMPOUND	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-018C *041131371-0054*	2ND FLOOR - WHTIE WINDOW GLAZING COMPOUND	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-019A *041131371-0055*	2ND FLOOR - BROWN VINYL BASEBOARD	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-019B *041131371-0056*	2ND FLOOR - BROWN VINYL BASEBOARD	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-019C *041131371-0057*	KITCHEN - BROWN VINYL BASEBOARD	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-020A *041131371-0058*	2ND FLOOR - BROWN MASTIC A/W BROWN VINYLE BASEBOARD	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
1129JH-020B *041131371-0059*	2ND FLOOR - BROWN MASTIC A/W BROWN VINYLE BASEBOARD	Brown Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
1129JH-020C *041131371-0060*	KITCHEN - BROWN MASTIC A/W BROWN VINYLE BASEBOARD	Brown Non-Fibrous Heterogeneous		recommend TEM	100% Non-fibrous (other)	**None Detected**
1129JH-0121A *041131371-0061*	BATH OFF 1ST FLOOR ROOM A/B - GREY VINYL BASEBOARD					**Not Submitted**
1129JH-0121B *041131371-0062*	BATH OFF 1ST FLOOR ROOM A/B - GREY VINYL BASEBOARD					**Not Submitted**
1129JH-0121C *041131371-0063*	BATH OFF 1ST FLOOR ROOM A/B - GREY VINYL BASEBOARD					**Not Submitted**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-0122A *041131371-0064*	BATH OFF 1ST FLOOR ROOM A/B - WHITE MASTIC A/W GREY VINYL BASEBOARD	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-0122B *041131371-0065*	BATH OFF 1ST FLOOR ROOM A/B - WHITE MASTIC A/W GREY VINYL BASEBOARD	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-0122C *041131371-0066*	BATH OFF 1ST FLOOR ROOM A/B - WHITE MASTIC A/W GREY VINYL BASEBOARD	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-0123A *041131371-0067*	2ND FLOOR - GREEN W/ DARK GREEN & PINK STEAKS 9 X9 FLOOR TILE	Green Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-0123B *041131371-0068*	2ND FLOOR - GREEN W/ DARK GREEN & PINK STEAKS 9 X9 FLOOR TILE				**Stop Positive (Not Analyzed)**
1129JH-0123C *041131371-0069*	KITCHEN - GREEN W/ DARK GREEN & PINK STEAKS 9 X9 FLOOR TILE				**Stop Positive (Not Analyzed)**
1129JH-0124A *041131371-0070*	2ND FLOOR ROOM A/D - GREEN W/ GREEN& WHIT STREAKD 9 X9 FLOOR TILE	Green Non-Fibrous Heterogeneous		94% Non-fibrous (other)	**6% Chrysotile**
1129JH-0124B *041131371-0071*	2ND FLOOR ROOM A/D - GREEN W/ GREEN& WHIT STREAKD 9 X9 FLOOR TILE				**Stop Positive (Not Analyzed)**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-0124C *041131371-0072*	2ND FLOOR ROOM A/D - GREEN W/ GREEN& WHIT STREAKD 9 X9 FLOOR TILE						**Stop Positive (Not Analyzed)**
1129JH-0125A *041131371-0073*	1ST FLOOR ROOM A/B - GREY MOTTLED 12 X 12 FLOOR TILE	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-0125B *041131371-0074*	1ST FLOOR ROOM A/D - GREY MOTTLED 12 X 12 FLOOR TILE	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-0125C *041131371-0075*	1ST FLOOR ROOM HALL - GREY MOTTLED 12 X 12 FLOOR TILE	Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

Recommend TEM

Initial report from 12/05/2011 20:55:55

Analyst(s)

Christopher Mercer (19) *Juli Patel (9)* *Samantha Runds*
Christina Walker (27) *Phong Nguyen (61)*

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-0126A *041131371-0076*	1ST FLOOR ROOM A/D - BLACK MASTIC A/W FLOOR TILES	Black Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
1129JH-0126B *041131371-0077*	2ND FLOOR - BLACK MASTIC A/W FLOOR TILES				**Stop Positive (Not Analyzed)**
1129JH-0126C *041131371-0078*	2ND FLOOR ROOM A/D - BLACK MASTIC A/W FLOOR TILES				**Stop Positive (Not Analyzed)**
1129JH-0127A *041131371-0079*	1ST FLOOR HALL - BROWN MASTIC A/W GREY MOTTLED 12 X12 FLOOR TILE	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-0127B *041131371-0080*	1ST FLOOR HALL - BROWN MASTIC A/W GREY MOTTLED 12 X12 FLOOR TILE	Brown Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-0127C *041131371-0081*	1ST FLOOR HALL - BROWN MASTIC A/W GREY MOTTLED 12 X12 FLOOR TILE	Brown Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-0128A *041131371-0082*	1ST FLOOR BATH OFF ROOM A/B - BROWN WALL PANEL GLUE	Brown Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
1129JH-0128B *041131371-0083*	1ST FLOOR BATH OFF ROOM A/B - BROWN WALL PANEL GLUE	Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-0128C *041131371-0084*	2ND FLOOR BATH - BROWN WALL PANEL GLUE	Brown Fibrous Heterogeneous	70%	Cellulose	30%	Non-fibrous (other)	**None Detected**
1129JH-0129A *041131371-0085*	KITCHEN - WALL PANEL GLUE YELLOW	Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
1129JH-0129B *041131371-0086*	KITCHEN - WALL PANEL GLUE YELLOW	Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
1129JH-0129C *041131371-0087*	2ND FLOOR ROOM A/B - WALL PANEL GLUE YELLOW	Brown Fibrous Heterogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
1129JH-030A *041131371-0088*	1ST FLOOR ROOM A/B - BROWN CORK BOARD MASTIC	Brown Fibrous Heterogeneous	10%	Cellulose	90%	Non-fibrous (other)	**None Detected**
1129JH-030B *041131371-0089*	1ST FLOOR ROOM A/B - BROWN CORK BOARD MASTIC	Brown Fibrous Heterogeneous	5%	Cellulose	95%	Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-030C *041131371-0090*	1ST FLOOR ROOM A/D - BROWN CORK BOARD MASTIC	Brown Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-031A *041131371-0091*	BASEMENT CENTRAL ROOM - LEVELLNG COMPOUND	Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-031B *041131371-0092*	BASEMENT CENTRAL ROOM - LEVELLNG COMPOUND	Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-031C *041131371-0093*	BASEMENT CENTRAL ROOM - LEVELLNG COMPOUND	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-032A *041131371-0094*	BASEMENT - AIRCELL PIPE TSI	Tan Fibrous Homogeneous	40%	Cellulose	40%	Non-fibrous (other)	**20% Chrysotile**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-032B *041131371-0095*	BASEMENT - AIRCELL PIPE TSI						**Stop Positive (Not Analyzed)**
1129JH-032C *041131371-0096*	BASEMENT - AIRCELL PIPE TSI						**Stop Positive (Not Analyzed)**
1129JH-033A *041131371-0097*	BASEMENT - MUDDED PIPE FITTINGS A/W AIRCELL PIPE TSI	Beige Fibrous Homogeneous	20%	Cellulose	68%	Non-fibrous (other)	**12% Chrysotile**
1129JH-033B *041131371-0098*	BASEMENT - MUDDED PIPE FITTINGS A/W AIRCELL PIPE TSI						**Stop Positive (Not Analyzed)**
1129JH-033C *041131371-0099*	BASEMENT - MUDDED PIPE FITTINGS A/W AIRCELL PIPE TSI						**Stop Positive (Not Analyzed)**
1129JH-034A *041131371-0100*	BOILER ROOM - BOILER BREECHING TSI	Beige Fibrous Heterogeneous	20%	Cellulose	70%	Non-fibrous (other)	**10% Chrysotile**

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Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-034B *041131371-0101*	BOILER ROOM - BOILER BREECHING TSI						**Stop Positive (Not Analyzed)**
1129JH-034C *041131371-0102*	BOILER ROOM - BOILER BREECHING TSI						**Stop Positive (Not Analyzed)**
1129JH-035A *041131371-0103*	BOILER ROOM - BOILER JACKET TSI	Beige Fibrous Homogeneous	30%	Min. Wool	55%	Non-fibrous (other)	**15% Chrysotile**
1129JH-035B *041131371-0104*	BOILER ROOM - BOILER JACKET TSI						**Stop Positive (Not Analyzed)**
1129JH-035C *041131371-0105*	BOILER ROOM - BOILER JACKET TSI						**Stop Positive (Not Analyzed)**
1129JH-036A *041131371-0106*	BOILER ROOM - BOILER RIB CAULK	Brown Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-036B *041131371-0107*	BOILER ROOM - BOILER RIB CAULK	Brown Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-036C *041131371-0108*	BOILER ROOM - BOILER RIB CAULK	Brown/Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-037A *041131371-0109*	BOILER ROOM - INTERIOR BOILER DEBRIS	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-037B *041131371-0110*	BOILER ROOM - INTERIOR BOILER DEBRIS	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-037C *041131371-0111*	BOILER ROOM - INTERIOR BOILER DEBRIS	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-038A *041131371-0112*	BOILER ROOM - BOILER BRICK	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-038B *041131371-0113*	BOILER ROOM - BOILER BRICK	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-038C *041131371-0114*	BOILER ROOM - BOILER BRICK	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-039A *041131371-0115*	BOILER - FLUE CEMENT GREY	Gray Fibrous Heterogeneous	5%	Cellulose	95%	Non-fibrous (other)	**None Detected**
1129JH-039B *041131371-0116*	BOILER - FLUE CEMENT GREY	Gray Fibrous Heterogeneous	5%	Cellulose	95%	Non-fibrous (other)	**None Detected**
1129JH-039C *041131371-0117*	HOT WATER TANK - FLUE CEMENT GREY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-040A *041131371-0118*	1ST FLOOR ROOM A/B - 16 X16 CEILING TILE	Tan Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
1129JH-040B *041131371-0119*	1ST FLOOR ROOM A/D - 16 X16 CEILING TILE	Tan Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
1129JH-040C *041131371-0120*	1ST FLOOR ROOM D - 16 X16 CEILING TILE	Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-041A *041131371-0121*	FRONT DOOR - TRANSON WINDOW GLAZING COMPOUND	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-041B *041131371-0122*	FRONT DOOR - TRANSON WINDOW GLAZING COMPOUND	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-042A *041131371-0123*	BASEMENT CENTRAL ROOM - WINDOW GLAZING COMPOUND	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-042B *041131371-0124*	BASEMENT CENTRAL ROOM - WINDOW GLAZING COMPOUND	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Initial report from 12/05/2011 20:55:55

Analyst(s)

Christopher Mercer (19) *Juli Patel (9)* *Samantha Runds*
Christina Walker (27) *Phong Nguyen (61)*

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
Customer PO:
Received: 12/01/11 9:40 AM
EMSL Order: 041131371

EMSL Proj:
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Sample	Description	Appearance	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos %	Type
1129JH-043A *041131371-0125*	1ST FLOOR ROOM A/B - BLACK SINK UNDERCOAT	Black Fibrous Homogeneous			95%	Non-fibrous (other)	**5%**	**Chrysotile**
1129JH-043B *041131371-0126*	1ST FLOOR ROOM A/B - BLACK SINK UNDERCOAT						**Stop Positive (Not Analyzed)**	
1129JH-044A *041131371-0127*	1ST FLOOR ROOM A/B - FIRE DOOR INSULATION (PAPER)	Yellow Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**	
1129JH-044B *041131371-0128*	1ST FLOOR ROOM A/B - FIRE DOOR INSULATION (PAPER)	Brown/Yellow Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**	
1129JH-045A *041131371-0129*	BASEMENT GILRS BATH - STALL PAPER	Yellow Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**	
1129JH-045B *041131371-0130*	BASEMENT GILRS BATH - STALL PAPER	Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**	

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			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
1129JH-046 *041131371-0131*	ATTIC DOOR - TRANSITE PANEL	Gray Non-Fibrous Homogeneous			80%	Non-fibrous (other)	**20%**	**Chrysotile**
1129JH-047A *041131371-0132*	BASEMENT - JOINT COMPOUND	White Fibrous Heterogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**
1129JH-047B *041131371-0133*	BASEMENT CEILING - JOINT COMPOUND	White Fibrous Heterogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**
1129JH-047C *041131371-0134*	2ND FLOOR BATH HALL - JOINT COMPOUND	Tan/White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**	
1129JH-048A *041131371-0135*	BOILER ROOM CEILING - DRY WALL	Gray Fibrous Heterogeneous	15%	Cellulose	85%	Non-fibrous (other)	**None Detected**	
1129JH-048B *041131371-0136*	KITCHEN - DRY WALL	Gray Fibrous Heterogeneous	10%	Cellulose	90%	Non-fibrous (other)	**None Detected**	
1129JH-048C *041131371-0137*	BASEMENT - DRY WALL	Gray Non-Fibrous Homogeneous	10%	Cellulose	90%	Non-fibrous (other)	**None Detected**	

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-049A *041131371-0138*	BASEMENT - GREY PLASTER SKIM COAT ON STONE WALLS	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-049B *041131371-0139*	BASEMENT - GREY PLASTER SKIM COAT ON STONE WALLS	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-049C *041131371-0140*	BASEMENT - GREY PLASTER SKIM COAT ON STONE WALLS	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-049D *041131371-0141*	BASEMENT - GREY PLASTER SKIM COAT ON STONE WALLS	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-049E *041131371-0142*	BASEMENT - GREY PLASTER SKIM COAT ON STONE WALLS	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-050A *041131371-0143*	1ST FLOOR HALL - CEILING SKIM (SWIRL PATTERN)	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-050B *041131371-0144*	1ST FLOOR STAIRS - CEILING SKIM (SWIRL PATTERN)	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-050C *041131371-0145*	2ND FLOOR STAIRS - ROUGH COAT PLASTER WALL	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-051A *041131371-0146*	1ST FLOOR ROOM A/B - ROUGH COAT PLASTER WALL	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-051B *041131371-0147*	1ST FLOOR ROOM B/C - ROUGH COAT PLASTER WALL	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-051C *041131371-0148*	1ST FLOOR ROOM A/D - ROUGH COAT PLASTER WALL	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-051D *041131371-0149*	2ND FLOOR ROOM A/B - ROUGH COAT PLASTER WALL	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-051E *041131371-0150*	2ND FLOOR ROOM B/C - ROUGH COAT PLASTER WALL	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-051F *041131371-0151*	2ND FLOOR ROOM HALL - ROUGH COAT PLASTER WALL	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-051G *041131371-0152*	ATTIC - SKIM COAT PLASTER WALL (STUCCO)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-052A *041131371-0153*	1ST FLOOR ROOM A/B - SKIM COAT PLASTER WALL (STUCCO)	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1129JH-052B *041131371-0154*	1ST FLOOR ROOM B/C - SKIM COAT PLASTER WALL (STUCCO)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-052C *041131371-0155*	2ND FLOOR ROOM A/D - SKIM COAT PLASTER WALL (STUCCO)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-052D *041131371-0156*	2ND FLOOR ROOM A/B - SKIM COAT PLASTER WALL (STUCCO)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-052E *041131371-0157*	2ND FLOOR ROOM B/C - SKIM COAT PLASTER WALL (STUCCO)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1129JH-052F *041131371-0158*	2ND FLOOR HALL - SKIM COAT PLASTER WALL (STUCCO)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-052G *041131371-0159*	ATTIC - SKIM COAT PLASTER WALL (STUCCO)	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-053A *041131371-0160*	BASEMENT BOILER ROOM - WALL PLASTER ROUGH COAT (NO SKIM)	Gray Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
1129JH-053B *041131371-0161*	BASEMENT BOILER ROOM - WALL PLASTER ROUGH COAT (NO SKIM)	Gray Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
1129JH-053C *041131371-0162*	BASEMENT BOYS BATH - CEILING PLASTER SKIM COAT	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-054A *041131371-0163*	BASEMENT BOYS BATH - CEILING PLASTER SKIM COAT	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-054B *041131371-0164*	BASEMENT BOYS BATH - CEILING PLASTER SKIM COAT	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-054C *041131371-0165*	BASEMENT BOYS BATH - CEILING PLASTER SKIM COAT	Gray/White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-055A *041131371-0166*	BASEMENT - CEILING PLASTER ROUGH COAT	Gray Fibrous Homogeneous	15%	Synthetic	85%	Non-fibrous (other)	**None Detected**
1129JH-055B *041131371-0167*	BASEMENT - CEILING PLASTER ROUGH COAT	Gray Fibrous Homogeneous	15%	Synthetic	85%	Non-fibrous (other)	**None Detected**
1129JH-055C *041131371-0168*	BASEMENT BOYS BATH - CEILING PLASTER ROUGH COAT	Gray/White Non-Fibrous Heterogeneous	8%	Hair	92%	Non-fibrous (other)	**None Detected**

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Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
Customer PO:
Received: 12/01/11 9:40 AM
EMSL Order: 041131371

EMSL Proj:
Analysis Date: 12/5/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-056A *041131371-0169*	2ND FLOOR HALL - CEILING PLASTER SKIM COAT	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-056B *041131371-0170*	2ND FLOOR HALL ROOM B/C - CEILING PLASTER SKIM COAT	Tan Non-Fibrous Homogeneous	2%	Synthetic	98%	Non-fibrous (other)	**None Detected**
1129JH-056C *041131371-0171*	2ND FLOOR HALL ROOM A/D - CEILING PLASTER SKIM COAT	Gray Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-056D *041131371-0172*	2ND FLOOR HALL ROOM D - CEILING PLASTER SKIM COAT	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-056E *041131371-0173*	- CEILING PLASTER SKIM COAT	White Fibrous Homogeneous	2%	Synthetic	98%	Non-fibrous (other)	**None Detected**

Initial report from 12/05/2011 20:55:55

Analyst(s)

Christopher Mercer (19) *Juli Patel (9)* *Samantha Runds*
Christina Walker (27) *Phong Nguyen (61)*

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: cinnasblab@EMSL.com

Attn: **Karron Redfield**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (888) 838-1160 Phone: (860) 646-2469

Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-056F *041131371-0174*	- CEILING PLASTER SKIM COAT	Gray/White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-056G *041131371-0175*	- CEILING PLASTER ROUGH COAT	Gray/White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-057A *041131371-0176*	2ND FLOOR HALL - CEILING PLASTER SKIM COAT	Gray Fibrous Homogeneous	15%	Synthetic	85%	Non-fibrous (other)	**None Detected**
1129JH-057B *041131371-0177*	2ND FLOOR ROOM B/C - CEILING PLASTER SKIM COAT	Gray Fibrous Heterogeneous	15%	Synthetic	85%	Non-fibrous (other)	**None Detected**
1129JH-057C *041131371-0178*	2ND FLOOR ROOM A/D - CEILING PLASTER SKIM COAT	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Initial report from 12/05/2011 20:55:55

Analyst(s)

Christopher Mercer (19) *Juli Patel (9)* *Samantha Runds*
Christina Walker (27) *Phong Nguyen (61)*

Stephen Siegel, CIH, Laboratory Manager
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EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: cinnasblab@EMSL.com

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1129JH-057D *041131371-0179*	2ND FLOOR ROOM D - CEILING PLASTER SKIM COAT	Gray Fibrous Homogeneous	2%	Synthetic	98%	Non-fibrous (other)	**None Detected**
1129JH-057E *041131371-0180*	ATTIC - CEILING PLASTER SKIM COAT	Gray Fibrous Homogeneous	30%	Synthetic	70%	Non-fibrous (other)	**None Detected**
1129JH-057F *041131371-0181*	ATTIC - CEILING PLASTER SKIM COAT	Gray/White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1129JH-057G *041131371-0182*	ATTIC - CEILING PLASTER SKIM COAT	Gray/White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Initial report from 12/05/2011 20:55:55

Analyst(s)

Christopher Mercer (19) *Juli Patel (9)* *Samantha Runds*
Christina Walker (27) *Phong Nguyen (61)*

Stephen Siegel, CIH, Laboratory Manager
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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

THIS IS THE LAST PAGE OF THE REPORT.

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS

EMSL Order IDs
041131371/041131910

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	☐	☐	N/A
2.	Traffic Report	☐	☐	N/A
3.	Volatiles Data			
a.	Sample Data			
	Target Compound List (TCL) Results	☐	☐	N/A
	Reconstructed total ion chromatograms (RIC) for each sample	☐	☐	N/A
	For each sample:			
	Raw spectra and background-subtracted mass spectra of target compounds identified	☐	☐	N/A
	Mass spectra of all reported TICs with three best library matches	☐	☐	N/A
	Percent solids calculations	☐	☐	N/A
b.	Standards Data (all instruments)			
	Initial Calibration Data	☐	☐	N/A
	RICs and Quan Reports for all Standards	☐	☐	N/A
	Continuing Calibration	☐	☐	N/A
	RICs and Quan Reports for all Standards	☐	☐	N/A
	Internal Standard Area Summary	☐	☐	N/A
c.	Raw QC Data			
	Blank Data	☐	☐	N/A
	Matrix Spike Data	☐	☐	N/A
	Matrix Spike Duplicate Data	☐	☐	N/A
4.	Semivolatiles Data			
a.	QC Summary			
	Surrogate Percent Recovery Summary	☐	☐	N/A
	MS/MSD Summary	☐	☐	N/A
	Method Blank Summary	☐	☐	N/A
	Tuning and Mass Calibration	☐	☐	N/A

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

	YES	NO	COMMENTS
b. Sample Data			
TCL Results	☐	☐	N/A
Tentatively Identified Compounds	☐	☐	N/A
Reconstructed total ion chromatograms (RIC) for each Sample	☐	☐	N/A
For each sample:			
Raw spectra and background-subtracted mass spectra of TCL compounds	☐	☐	N/A
Mass spectra of TICs with 3 best library matches	☐	☐	N/A
GPC chromatograms (if GPC performed)	☐	☐	N/A
c. Standards Data (all instruments)			
Initial Calibration Data	☐	☐	N/A
RICs and Quan Reports for all Standards	☐	☐	N/A
Continuing Calibration	☐	☐	N/A
RICs and Quan Reports for all Standards	☐	☐	N/A
Internal Standard Areas Summary	☐	☐	N/A
Internal Standard Areas Summary	☐	☐	N/A
d. Raw QC Data			
Decafluorotripbenylphosphine (DFTPP)	☐	☐	N/A
Blank Data	☐	☐	N/A
Matrix Spike Data	☐	☐	N/A
Matrix Spike Duplicate Data	☐	☐	N/A
5. Miscellaneous Data			
Original preparation and analysis forms or copies of preparation and analysis log book pages	☐	☐	N/A
Internal sample & sample extract transfer chain-of custody records	☐	☐	N/A
Screening Records	☐	☐	N/A
All instrument output, including strip charts from screening activities (describe or list)	☐	☐	N/A

_____

_____

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
6.	Chain-of-Custody Records	☐	☐	N/A
	Sample Log-in Sheet (Lab & DC1)	☐	☐	N/A
	Miscellaneous Shipping/Receiving Records (describe or list)	☐	☐	N/A
7.	Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)	☐	☐	N/A
8.	Other Records (describe or list)	☐	☐	N/A

9. Comments:

** See laboratory Quality Assurance Plan for limits.

Completed by: (Lab) — Stephen Siegel (Signature) — Stephen Siegel/Lab Mgr (Printed Name/Title) — 12/23/11 (Date)

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: (Lab) — Stephen Siegel (Signature) — Stephen Siegel/Lab Mgr (Printed Name/Title) — 12/23/11 (Date)

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST INORGANIC COMPOUNDS

EMSL Order IDs
041131371/041131910

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	X		
2.	Inorganic Analysis Data Sheet			N/A
3.	Initial and Continuing Calibration Verification			N/A
4.	CRDL Standard for AA and ICP			N/A
5.	Blanks	X		
6.	ICP Interference Check Sample			N/A
7.	Spike Sample Recovery			N/A
8.	Post Digest Spike Sample Recovery			N/A
9.	Duplicates	X		
10.	Laboratory Control Sample	X		
11.	Standard Addition Results			N/A
12.	ICP Serial Dilutions			N/A
13.	Instrument Detection Limits, Quarterly			N/A
14.	ICP Interelement Correction Factors, Annually			N/A
15.	ICP Linear Ranges Quarterly			N/A
16.	Preparation Log			N/A
17.	Analysis Run Log			N/A
18.	ICP Raw Data			N/A
19.	Furnace AA Raw Data			N/A
20.	Mercury Raw Data			N/A
21.	Percent Solids Calculations			N/A
22.	Digestion Logs			N/A
23.	EPA Shipping/Receiving Records (List all individual records)			N/A
	Chain-of Custody Records			N/A
	Sample Log-In sheet			N/A
24.	Miscellaneous Shipping/Receiving Records (List all individual records)			N/A

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
INORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
25.	Internal Lab Sample Transfer Records and Tracking Sheets (Describe or List) Internal COC			
26.	Internal Original Sample Preparation and analysis Records			
	(Describe or List	☐	☐	
	Preparation Records	☐ x	☐	
	Analysis Records	☐ x	☐	
	Description	☐	☐	
27.	Other Records (Describe or List)			
28.	Comments:			

** See laboratory Quality Assurance Plan for limits.

Completed by: Stephen Siegel — Stephen Siegel/Lab Mgr — 12/23/11
(Lab) (Signature) (Printed Name/Title) Date

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: Stephen Siegel — Stephen Siegel/Lab Mgr — 12/23/11
(Lab) (Signature) (Printed Name/Title) Date

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND MODIFIED TIER I COMPLETENESS CHECKLIST

EMSL 04113137 1 (PLM + point-count)

	YES	NO
1. SAMPLING AND FIELD MEASUREMENTS:		
Field measurement calibration records	☐	☐ NA
Groundwater field measurements (if applicable)	☐	☐
Soil sampling field measurements (if applicable)	☐	☐
Sediment sampling field measurements (if applicable)	☐	☐
Surface water sampling field measurements (if applicable)	☐	☐
Low-flow sampling field measurements (if applicable)	☐	☐
Documentation of field activities	☑	☐
Sample numbering and labeling	☑	☐
Chain-of-Custody records	☑	☐
Trip blanks	☐	☐ NA
Duplicate samples	☐	☐
Equipment blanks	☐	☐
Split samples (if any)	☐	☐
2. LABORATORY MEASUREMENTS:		
Trip blanks	☐	☐ NA
Instrument blanks	☑	☐ according to narrative
Laboratory control samples	☑	☐
Duplicates samples	☑	☐
Equipment blanks	☐	☐ NA
Matrix spike/matrix spike duplicates	☐	☐
Analysis type	☑	☐
Chain-of-Custody records	☑	☐
Surrogate recoveries	☐	☐ NA
Sample Project Narratives	☑	☐
Split samples (if any)	☐	☐ NA
TOTAL:	9	0

PERCENT COMPLETE: 100 %

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST

EMSL 04113137 (PLM+ point count)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
1. SAMPLING AND FIELD MEASUREMENTS:			
Field measurement calibration records			NA
pH - ± 0.3 pH units	☐	☐	
S.C. - ± 5% of calibration solution, within? calibration range	☐	☐	
Temperature - ± 0.5 °C	☐	☐	
D.O. - ± 5% of calibration solution	☐	☐	
Groundwater field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Soil sampling field measurements (if applicable)			
OVM - ± 2 ppm	☐	☐	
OVA - ± 2 ppm	☐	☐	
Sediment sampling field measurements (if applicable)			
Descriptive information recorded?	☐	☐	
Surface water sampling field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Low-flow sampling field measurements (if applicable)			
S.C. - ± 10%	☐	☐	
pH - ± 0.2 pH units	☐	☐	
Temperature - ± 10%	☐	☐	
Turbidity - ±5 NTU	☐	☐	
Documentation of field activities			
Site-specific information documented in field notebook?	☑	☐	
Field data sheets completed?	☑	☐	
Sample numbering and labeling			
Sample numbering conforms to sample I.D. system identified in QAPP?	☐	☑	numbering system specific to building materials was used
Chain-of-Custody records			
Chain-of-Custody forms completed?	☑	☐	field data sheets served as COC

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST
(Continued) EMSL 04131371 (PLM + point count)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	
Duplicate samples			
Field duplicates performed, 1/20 samples?	☐	☐	
Duplicates performed on 10% of samples screened for explosives?	☐	☐	
Is percent difference within 30% for all field parameters?	☐	☐	
Equipment blanks			
Equipment blanks submitted, one per sampling day?	☐	☐	
Any compounds detected in equipment blank?	☐	☐	
Split samples (if any)			
Split samples collected?	☐	☐	
Is percent difference within 30% for split samples?	☐	☐	

2. LABORATORY MEASUREMENTS:

Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	
Instrument blanks**	☑	☐	according to narrative
Laboratory control samples**	☑	☐	
Duplicates samples**	☑	☐	
Equipment blanks**	☐	☐	NA
Matrix spike/matrix spike duplicates**	☐	☐	
Analysis type	☑	☐	TC
Chain-of-Custody records	☑	☐	
Surrogate recoveries**	☐	☐	NA
Sample Project Narratives	☑	☐	
Split samples (if any)**	☐	☐	NA
Most recent EPA WP-PE sample results**	☐	☐	

Appendix C

Asbestos PLM USEPA 400 Point Count Laboratory Analysis Results

Modified Tier II
Data Validation Narrative

Project: 20081593.B10, Former Liberty Street School

EMSL Laboratory Project Numbers:	041131371 and 041131910
Date Samples Received at Laboratory:	December 1, 2011
Date of Review:	February 20, 2012

On December 1, 2011, EMSL Analytical, Inc. (EMSL) received 182 bulk building materials samples from Fuss & O'Neill, care of ESS Laboratory. The samples were submitted to EMSL for analysis of asbestos content using a variety of analytical methods.

Initially, the samples were analyzed via polarized light microscopy (PLM) using procedures documented in United States Environmental Protection Agency (USEPA) Method 600/R-93/116. Following initial analysis, on December 8, 2011, Fuss & O'Neill requested that two samples be additionally analyzed via PLM 400 Point Count using procedures documented in USEPA Method 600/R-93/116. Seventeen samples were also requested for analysis via Transmission Electron Microscopy and the Chatfield Method.

Analytical results were expressed in percent asbestos content, with a quantification limit of <1%. The correct samples were analyzed via the appropriate requested methods. When appropriate and as requested by Fuss & O'Neill, analyses of samples comprising a sample group of the same material were stopped upon confirmation that an initial sample in the group contained asbestos.

Transcription errors resulted in multiple erroneous sample location and/or material type references for select samples documented in analytical report 041131371. However, asbestos was not detected in any of the samples affected by these errors; neither in the samples themselves, nor in the materials erroneously referred to in the sample descriptions. As such, these transcription errors did not affect the overall usability of the asbestos data.

No other significant laboratory non-conformances or deviations from the *Site-Specific QAPP Addendum* were noted for the asbestos samples and analyses. According to the case narratives and the *Modified Tier II Data Validation Checklist* associated with these analytical reports, analyses of batch blanks, laboratory duplicates, and laboratory control samples were performed and within acceptable quality control range. In summary, the asbestos data were considered usable for the purposes of quantifying asbestos content in the sampled building materials and developing a cost estimate for abatement activities.

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-0235

January 18, 2012

Karron Redfield
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Re: **Narrative EMSL Order ID 041131371**

Dear Karron

On December1, 2011 EMSL Analytical, Inc.(Woburn, MA) received 182 bulk samples for the 20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL project . These samples were sent by overnight shipping carrier to EMSL-Cinnaminson, NJ. The EMSL NJ lab accepted these samples and received them on December 1, 2011. All samples were logged in following normal lab procedures and were received in acceptable condition. All 182 samples were present and in acceptable condition.

PLM EPA 600/R-93/11 –116
The bulk samples were analyzed via polarized light microscopy (PLM) using the procedures from the EPA 600/R-93/116 method. All data was reported on a %asbestos basis with a limit of quantification for this method of <1%. Positive stops as well as sample layers were established by the client.

Daily lab blanks, scope alignments, inter and intra QC analysis were performed in accordance with EMSL's QC SOP. All QC data was deemed as acceptable.

PLM EPA 400 Point Count via EPA 600/R-93/11 –116
Based upon the initial PLM sample results, two client selected bulk samples were requested to be analyzed using PLM EPA 400 Point Count technique, using the procedures from the EPA 600/R-93/116 method. All data was reported on a %asbestos basis with a limit of quantification for this method of <0.25%. Positive stops as well as sample layers were established by the client.

Daily lab blanks, scope alignments, inter and intra QC analysis were performed in accordance with EMSL's QC SOP. All QC data was deemed as acceptable.

Stephen Siegel, CIH
Asbestos Lab Manager
EMSL Cinnaminson, NJ

Asbestos • Lead • Environmental • Materials & Indoor Air Analysis

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974
Web: http://www.emsl.com Email: cinnasblab@EMSL.com

FACSIMILE TRANSMITTAL SHEET

To: Karron Redfield
Company: Fuss & O'Neill EnviroScience, LLC
Fax Number: (888) 838-1160
Phone Number: (860) 646-2469

From: EMSL Analytical, Inc.
Date: January 18, 2012
PAGES INCLUDING COVER: 18

RE: Analysis Results for Order(s) 041131371
The following report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on the following date(s):
12/1/2011 9:40:00AM

Notice: **This information may contain privileged and confidential information and is solely for the use of the sender's intended recipient(s). If you received this information in error, please notify the sender and delete all copies. Thank you.**

EMSL Analytical, Inc. News

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182 1111489 04113137

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 1 of 16

Project Name: RIDEM-Former Liberty St. School Project No. 20081593.B10

Building: Former Liberty St. School Project Manager: Pat Dowling

	Sample ID	Sample Location		Material	Result (%)
31	1129-JH-01A	Roof		Grey Tar Shingle	
32	-01B	↓		↓	
33	-01C			Black Roof Paper	
34	-02A			↓	
35	-02B				
36	-02C			Black Siding Paper	120 SF
37	-03A		Cupola		
38	-03B		↓	↓	
39	-03C			Black Trim Caulk	40 lf
40	-04A			↓	
41	-04B				
42	-04C				

Analysis Method: [X] PLM [ ] Other

Turnaround Time Standard - Quick TAT

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

~~Fax Results to the EnviroScience Laboratory at: 888-838-1160.~~

Special Instruction: Stop at first positive in each set.

Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

Shipped To: [ ] EMSL State _____ [X] Other ESS

Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other

NO FED X 9:40 AM + PLM Analysis [illegible] 12/1/11

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 2 of 16

Project Name: RIDEM-Former Liberty St. School Project No. 20081593.B10

Building: Former Liberty St. School Project Manager: Pat Dowling

	Sample ID	Sample Location		Material	Result (%)
13	1129JH -05A	Roof	Cupola	Residual white Louver Cement K	12 cu ft
14	-05B	↓	↓	↓	
15	-05C	↓	↓	↓	
16	-06A	Roof		Skylight Glazing Compound	50 lf
17	-06B	↓		↓	
18	-06C	↓		↓	
19	-07A	↓		Tan Chimney Flashing Sealant	40 lf
20	-07B	↓		↓	
21	-07C	↓		↓	
22	-08A	↓		Silver Chimney Flashing Sealant	40 lf
23	-08B	↓		↓	
24	-08C	↓		↓	

Analysis Method: [X] PLM [ ] Other

Turnaround Time Standard

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

~~Fax Results to the EnviroScience Laboratory at: 888-338-1160.~~

Special Instruction: Stop at First positive in each set.

Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

Shipped To: [ ] EMSL State _____ [X] Other ESS

Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 3 of 16

Project Name: RIDEM-Former Liberty St. School Project No. 20081593.B10

Building: Former Liberty St. School Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
25	112-83H -09A	Roof	Tan caulk @ Metal Flue	3 sf
26	-09B	↓	↓	
27	-09C	↓	↓	
28	-10A	Roof chimney w/ metal flue	Flue Cement	550 sf
29	-10B	↓	↓	
30	-10C	↓	↓	
31	-11A	chimney w/ Liner	Flue liner	300 sf
32	-11B	↓	↓	
33	-11C	↓	↓	
34	-12A	↓	Mortar	300 sf
35	-12B	↓	↓	
36	-12C	↓	↓	

Analysis Method: [X] PLM [ ] Other

Turnaround Time Standard

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

~~Fax Results to the EnviroScience Laboratory at: 888-838-1160.~~

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Samples collected by: JH + DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

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Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 4 of 16

Project Name: RIDEM-Former Liberty St. School Project No. 20081593.010

Building: Former Liberty St. School Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
37	1129-JH-13A	Low Metal Roof	Flashing Sealant	
38	-13B	↓	↓	
39	-13C	↓	window Header overhang caulk 75 lf	
40	-14A	Exterior		
41	-14B	↓	↓	
42	-14C	↓	window caulk Red	
43	-15A	Side D		
44	-15B	Side B	↓	
45	-15C	Side D	Door caulk Red	
46	-16A	Side D	window caulk white under Red	
47	-16B	Side B	↓	
48	-16C	Side D	Door caulk white under Red	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time Standard

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

~~Fax Results to the EnviroScience Laboratory at: 888-838-1160.~~

Special Instruction: Stop at First positive in each set.

Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

Shipped To: ☐ EMSL State _____ ☒ Other ESS

Method of Shipment: ☐ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☒ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 5 of 16

Project Name: RIDEM-Former Liberty St. School Project No. 20081593.810

Building: Former Liberty St. School Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
49	1129JH-17A	1st Floor	Grey window Glazing compound	
50	-17B	Teacher's Bath		
51	-17C	2nd Floor		
52	-18A	1st Floor Girls Bath	white window Glazing compound	
53	-18B	Kitchen		
54	-18C	2nd Floor		
55	-19A	2nd Floor	Brown Vinyl Baseboard	
56	-19B			
57	-19C	Kitchen		
58	-20A	2nd floor	Brown Mastic After Brown vinyl Baseboard	
59	-20B			
60	-20C	Kitchen		

Analysis Method: ☒ PLM ☐ Other

Turnaround Time Standard

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 888-838-1160.

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Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: _____ Date: _____ Time: _____

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Method of Shipment: ☐ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☒ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 6 of 14

Project Name: RIDEM-Former Liberty St. School
Project No. 20081593.B10
Building: Former Liberty St. School
Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
1	1129-JH-21A	Bath off 1st Floor Rm A/B	Grey vinyl Baseboard	
2	-21B	↓	↓	
3	-21C	↓	white Mastic Atop Grey vinyl Baseboard	
4	-22A	↓	↓	
5	-22B	↓	↓	
6	-22C	↓	Green w/ Dark Green + Pink Streaks 9x9 Floor Tile	
7	-23A	2nd Floor		
8	-23B	↓	↓	
9	-23C	Kitchen	Green w/ Green + white Streaks 9x9 Floor Tile	
10	-24A	2nd Floor Rm A/D		
11	-24B	2nd Floor	↓	
12	-24C	2nd Floor Bath		

Turnaround Time Standard

Analysis Method: [X] PLM [ ] Other

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Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

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Samples Received by: [illegible] Date: [illegible] Time: [illegible]

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 7 of 14

Project Name: RIDEM-Former Liberty St. School
Project No. 20081593.B10
Building: Former Liberty St. School
Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
73	1129.JH -25A	1st Floor Rm A/B	Grey Mottled 12x12 Floor Tile	
74	-25B	Rm A/D		
75	-25C	Hall		
76	-26A	1st Floor Rm A/D	Black Mastic A/W Floor Tiles	
77	-26B	2nd Floor		
78	-26C	2nd Floor Rm A/D		
79	-27A	1st Floor Hall	Brown Mastic A/W Grey Mottled 12x12 Floor Tile	
80	-27B			
81	-27C			
82	-28A	1st Floor Bath off Rm A/B	Brown Wall Panel Glue	
83	-28B			
84	-28C	2nd Floor Bath		

Turnaround Time Standard

Analysis Method: [X] PLM [ ] Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 8 of 16

Project Name: RIDEM-Former Liberty St. School
Project No. 20081593.B10
Building: Former Liberty St. School
Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
85	1129 JH-29A	Kitchen	Wall Panel Glue Yellow	
86	-29B	↓	↓	
87	-29C	2nd Floor Rm A/B		
88	-30A	1st Floor Rm A/B	Brown Cork Board Mastic	
89	-30B	↓	↓	
90	-30C	Rm A/D		
91	-31A	Basement central Rm	Leveling Compound	
92	-31B	↓	↓	
93	-31C	↓	↓	
94	-32A	Basement	AirCell Pipe TSI	
95	-32B	↓	↓	
96	-32C	↓	↓	

Turnaround Time Standard

Analysis Method: [X] PLM [ ] Other

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

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Special Instruction: Stop at First positive in each set.

Samples collected by: JH + DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

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Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 9 of 16

Project Name: RIDEM-Former Liberty St. School
Project No. 20081593.B10
Building: Former Liberty St. School
Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
77	1129JH -33A	Basement	Molded Pipe Fittings	
78	-33B	↓	Air Cell Pipe TSI	
79	-33C	↓	↓	
80	-34A	Boiler Room	Boiler Breeching TSI	
81	-34B	↓	↓	
82	-34C	↓	↓	
83	-35A	↓	Boiler Jacket TSI	
84	-35B	↓	↓	
85	-35C	↓	↓	
86	-36A	↓	Boiler Rib Caulk	
87	-36B	↓	↓	
88	-36C	↓	↓	

Analysis Method: [X] PLM [ ] Other

Turnaround Time Standard

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 888-838-1160.

Special Instruction: Stop at First positive in each set

Samples collected by: JH w DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

Shipped To: [ ] EMSL State _____ [X] Other ESS

Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 10 of 14

Project Name: RIDEM-Former Liberty St. School Project No. 20081593.B10

Building: Former Liberty St. School Project Manager: Pat Dowling

	Sample ID	Sample Location		Material	Result (%)
09	1129 JH-37A	Boiler Room		Interior Boiler Debris	
10	-37B	↓		↓	
11	-37C				
12	-38A			Boiler Brick	
13	-38B			↓	
14	-38C				
15	-39A		Boiler	Flue Cement Grey	
16	-39B		↓	↓	
17	-39C		Hot water Tank		
18	-40A	1st Floor	Rm A/B	16x16 ceiling Tile	
19	-40B		Rm A/D		
20	-40C		Rm D		

Turnaround Time Standard

Analysis Method: [X] PLM [ ] Other

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

~~Fax Results to the EnviroScience Laboratory at: 888-835-1160.~~

Special Instruction: Stop at First positive in each set.

Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

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Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 11 of 14

Project Name: RIDEM-Former Liberty St. School
Project No. 20081593.B10
Building: Former Liberty St. School
Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
121	1124 JM - 41A	Front Door	Transom window glazing compound	
122	MK 11/30/11 -41B	↓	↓	
123	-42A	Basement central area	window glazing compound	
124	-42B	↓ ↓ interior	↓	
125	-43A	1st Floor Rm A/B	Black sink undercoat	
126	-43B	↓ ↓	↓	
127	-44A	1st Floor Rm B/C	Fire Door insulation (paper)	
128	-44B	↓ ↓	↓	
129	-45A	Basement Girls Bath	Stall Paper	
130	-45B	↓	↓	
131	-46	Attic Door	Transite Panel	
132	-47A	Basement	Joint Compound	

Turnaround Time Standard

Analysis Method: ☒ PLM ☐ Other

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Fax Results to the EnviroScience Laboratory at: 888-838-1160.

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Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

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Method of Shipment: ☐ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☒ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 12 of 16

Project Name: RIDEM-Former Liberty St. School
Project No. 20081593.B10
Building: Former Liberty St. School
Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
133	1129JH-47B	Basement Ceiling	Joint Compound	
134	-47C	2nd Floor Bath Hall	↓	
135	-48A	Boiler Room Ceiling	Dry wall	
136	-48B	Kitchen	↓	
137	-48C	Basement Ceiling	Grey Plaster Skim Coat on Stone walls	2,000 SF
138	-49A	Basement	↓	
139	-49B	↓	↓	
140	-49C			
141	-49D			
142	-49E	↓	↓	
143	-50A	1st Floor Hall	Ceiling Skim (Swirl Pattern)	
144	-50B	Stairs	↓	

Turnaround Time Standard

Analysis Method: [X] PLM [ ] Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 13 of 16

Project Name: RIDEM-Former Liberty St. School
Project No. 20081593.B10
Building: Former Liberty St. School
Project Manager: Pat Dowling

	Sample ID	Sample Location		Material	Result (%)
45	112951H-50C	2nd Floor	Stairs	Rough Coat Plaster wall	
46	-51A	1st Floor	Rm A/B		
47	-51B		Rm B/C		
48	-51C		Rm A/D		
49	-51D	2nd Floor	Rm A/B		
50	-51E		Rm B/C		
51	-51F		Hall		
52	-51G	Attic			
53	-52A	1st Floor	Rm A/B	Skim Coat Plaster wall (Stucco)	
54	-52B		Rm B/C		
55	-52C		Rm A/D		
56	-52D	2nd Floor	Rm A/B		

Turnaround Time Standard

Analysis Method: [X] PLM [ ] Other

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Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: Date: Time:

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 14 of 16

Project Name: RIDEM-Former Liberty St. School Project No. 20081593.B10

Building: Former Liberty St. School Project Manager: Pat Dowling

	Sample ID	Sample Location	Material	Result (%)
57	1129 JH-52E	2nd Floor Rm B/C		
58	-52F	Hall		
59	-52G	Attic		
50	-53A	Basement	wall Plaster Rough Coat (No Skim)	
51	-53B	Boiler Rm		
52	-53C	Boys Bath	ceiling Plaster Skim Coat	
53	-54A			
54	-54B			
55	-54C	Boys Bath	ceiling Plaster Rough Coat	
56	-55A			
57	-55B			
58	-55C	Boys Bath		

Analysis Method: [X] PLM [ ] Other

Turnaround Time Standard

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Fax Results to the EnviroScience Laboratory at: 888-838-1160.

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Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: _____ Date: _____ Time: _____

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 15 of 16

Project Name: RIDEM-Former Liberty ST. School

Project No. 20081593.B10

Building: Former Liberty ST. School

Project Manager: Pat Dowling

	Sample ID	Sample Location		Material	Result (%)
69	1129JH-56A	2nd Floor	Hall	ceiling Plaster Skim Coat	
70	-56B		Rm B/C		
71	-56C		Rm A/D		
72	-56D		Rm D		
73	-56E				
74	174 mr 11/30/11 -56F				
75	-56G				
	-57A	2nd Floor	Hall	ceiling Plaster Rough Coat	
77	-57B		Rm B/C		
78	-57C		Rm A/D		
79	-57D		Rm D		
80	-57E	Attic			

Turnaround Time: Standard

Analysis Method: [X] PLM [ ] Other

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~~Fax Results to the EnviroScience Laboratory at: 888-838-1160.~~

Special Instruction: Stop at First positive in each set.

Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] [ ] [JH] Date: [ ] [11/30/11] Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

Shipped To: [ ] EMSL State _____ [X] Other: ESS

Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other

FUSS & O'NEILL
EnviroScience, LLC
50 Redfield St, Suite 100, Boston, MA 02122
www.fando.com
(617) 282-4675 Fax (617) 282-8253

04 113137

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 16 of 16

Project Name: RIDEM-Former Liberty ST. School
Project No. 20081593.010
Project Manager: Pat Dowling
Building: Former Liberty St. School

Sample ID	Sample Location	Material	Result (%)
81 1129SH-57F	Attic	↓	
82 -57G	↓		

Turnaround Time Standard

Analysis Method: ☒ PLM ☐ Other

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

~~Fax Results to the EnviroScience Laboratory at: 888-838-1160.~~

Special Instruction: Stop at First positive in each set.

Samples collected by: JH-DD Date: 11/29/11 Time: AM/PM

Samples [Rec'd][Sent by] JH Date: 11/30/11 Time: PM

Samples Received by: [illegible] Date: [illegible] Time: [illegible]

Shipped To: ☐ EMSL State _____ ☒ Other ESS

Method of Shipment: ☐ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☒ Other

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: cinnaablab@EMSL.com

Attn: **Karron Redfield**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (888) 838-1160 Phone: (860) 646-2469

Project: **20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
Customer PO:
Received: 12/01/11 9:40 AM
EMSL Order: 041131371

EMSL Proj:
Analysis Date: 1/18/2012

Test Report: Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116 and/or EPA 600/M4-82-020. Quantitation using 400 Point Count Procedure

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1129JH-47A *041131371-0132*	BASEMENT - JOINT COMPOUND	White Non-Fibrous Homogeneous		99.75% Non-fibrous (other)	**0.25% Chrysotile**
1129JH-47B *041131371-0133*	BASEMENT CEILING - JOINT COMPOUND	White Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	**<0.25% Chrysotile**

Initial report from 01/18/2012 16:13:29

Analyst(s)
Garret Vliet (2)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government. The test results contained within this report meet the requirements of NELAC unless otherwise specified. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

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GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS

EMSL Order IDs
041131371/041131910

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	☐	☐	N/A
2.	Traffic Report	☐	☐	N/A
3.	Volatiles Data			
a.	Sample Data			
	Target Compound List (TCL) Results	☐	☐	N/A
	Reconstructed total ion chromatograms (RIC) for each sample	☐	☐	N/A
	For each sample:			
	Raw spectra and background-subtracted mass spectra of target compounds identified	☐	☐	N/A
	Mass spectra of all reported TICs with three best library matches	☐	☐	N/A
	Percent solids calculations	☐	☐	N/A
b.	Standards Data (all instruments)			
	Initial Calibration Data	☐	☐	N/A
	RICs and Quan Reports for all Standards	☐	☐	N/A
	Continuing Calibration	☐	☐	N/A
	RICs and Quan Reports for all Standards	☐	☐	N/A
	Internal Standard Area Summary	☐	☐	N/A
c.	Raw QC Data			
	Blank Data	☐	☐	N/A
	Matrix Spike Data	☐	☐	N/A
	Matrix Spike Duplicate Data	☐	☐	N/A
4.	Semivolatiles Data			
a.	QC Summary			
	Surrogate Percent Recovery Summary	☐	☐	N/A
	MS/MSD Summary	☐	☐	N/A
	Method Blank Summary	☐	☐	N/A
	Tuning and Mass Calibration	☐	☐	N/A

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

	YES	NO	COMMENTS
b. Sample Data			
TCL Results	☐	☐	N/A
Tentatively Identified Compounds	☐	☐	N/A
Reconstructed total ion chromatograms (RIC) for each Sample	☐	☐	N/A
For each sample:			
Raw spectra and background-subtracted mass spectra of TCL compounds	☐	☐	N/A
Mass spectra of TICs with 3 best library matches	☐	☐	N/A
GPC chromatograms (if GPC performed)	☐	☐	N/A
c. Standards Data (all instruments)			
Initial Calibration Data	☐	☐	N/A
RICs and Quan Reports for all Standards	☐	☐	N/A
Continuing Calibration	☐	☐	N/A
RICs and Quan Reports for all Standards	☐	☐	N/A
Internal Standard Areas Summary	☐	☐	N/A
Internal Standard Areas Summary	☐	☐	N/A
d. Raw QC Data			
Decafluorotripbenylphosphine (DFTPP)	☐	☐	N/A
Blank Data	☐	☐	N/A
Matrix Spike Data	☐	☐	N/A
Matrix Spike Duplicate Data	☐	☐	N/A
5. Miscellaneous Data			
Original preparation and analysis forms or copies of preparation and analysis log book pages	☐	☐	N/A
Internal sample & sample extract transfer chain-of custody records	☐	☐	N/A
Screening Records	☐	☐	N/A
All instrument output, including strip charts from screening activities (describe or list)	☐	☐	N/A

_____

_____

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
6.	Chain-of-Custody Records	☐	☐	N/A
	Sample Log-in Sheet (Lab & DC1)	☐	☐	N/A
	Miscellaneous Shipping/Receiving Records (describe or list)	☐	☐	N/A
7.	Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)	☐	☐	N/A
8.	Other Records (describe or list)	☐	☐	N/A

9. Comments:

** See laboratory Quality Assurance Plan for limits.

Completed by: (Lab) — Stephen Siegel (Signature) — Stephen Siegel/Lab Mgr (Printed Name/Title) — 12/23/11 (Date)

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: (Lab) — Stephen Siegel (Signature) — Stephen Siegel/Lab Mgr (Printed Name/Title) — 12/23/11 (Date)

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST INORGANIC COMPOUNDS

EMSL Order IDs
041131371/041131910

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	X		
2.	Inorganic Analysis Data Sheet			N/A
3.	Initial and Continuing Calibration Verification			N/A
4.	CRDL Standard for AA and ICP			N/A
5.	Blanks	X		
6.	ICP Interference Check Sample			N/A
7.	Spike Sample Recovery			N/A
8.	Post Digest Spike Sample Recovery			N/A
9.	Duplicates	X		
10.	Laboratory Control Sample	X		
11.	Standard Addition Results			N/A
12.	ICP Serial Dilutions			N/A
13.	Instrument Detection Limits, Quarterly			N/A
14.	ICP Interelement Correction Factors, Annually			N/A
15.	ICP Linear Ranges Quarterly			N/A
16.	Preparation Log			N/A
17.	Analysis Run Log			N/A
18.	ICP Raw Data			N/A
19.	Furnace AA Raw Data			N/A
20.	Mercury Raw Data			N/A
21.	Percent Solids Calculations			N/A
22.	Digestion Logs			N/A
23.	EPA Shipping/Receiving Records (List all individual records)			N/A
	Chain-of Custody Records			N/A
	Sample Log-In sheet			N/A
24.	Miscellaneous Shipping/Receiving Records (List all individual records)			N/A

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
INORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
25.	Internal Lab Sample Transfer Records and Tracking Sheets (Describe or List) Internal COC			
26.	Internal Original Sample Preparation and analysis Records			
	(Describe or List	☐	☐	
	Preparation Records	☐ x	☐	
	Analysis Records	☐ x	☐	
	Description	☐	☐	
27.	Other Records (Describe or List)			
28.	Comments:			

** See laboratory Quality Assurance Plan for limits.

Completed by: Stephen Siegel — Stephen Siegel/Lab Mgr — 12/23/11
(Lab) (Signature) (Printed Name/Title) Date

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: Stephen Siegel — Stephen Siegel/Lab Mgr — 12/23/11
(Lab) (Signature) (Printed Name/Title) Date

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND MODIFIED TIER I COMPLETENESS CHECKLIST

EMSL 04113137 1 (PLM + point-count)

	YES	NO
1. SAMPLING AND FIELD MEASUREMENTS:		
Field measurement calibration records	☐	☐ NA
Groundwater field measurements (if applicable)	☐	☐
Soil sampling field measurements (if applicable)	☐	☐
Sediment sampling field measurements (if applicable)	☐	☐
Surface water sampling field measurements (if applicable)	☐	☐
Low-flow sampling field measurements (if applicable)	☐	☐
Documentation of field activities	☑	☐
Sample numbering and labeling	☑	☐
Chain-of-Custody records	☑	☐
Trip blanks	☐	☐ NA
Duplicate samples	☐	☐
Equipment blanks	☐	☐
Split samples (if any)	☐	☐
2. LABORATORY MEASUREMENTS:		
Trip blanks	☐	☐ NA
Instrument blanks	☑	☐ according to narrative
Laboratory control samples	☑	☐
Duplicates samples	☑	☐
Equipment blanks	☐	☐ NA
Matrix spike/matrix spike duplicates	☐	☐
Analysis type	☑	☐
Chain-of-Custody records	☑	☐
Surrogate recoveries	☐	☐ NA
Sample Project Narratives	☑	☐
Split samples (if any)	☐	☐ NA
TOTAL:	9	0

PERCENT COMPLETE: 100 %

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST

EMSL 04113137 (PLM+ point count)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
1. SAMPLING AND FIELD MEASUREMENTS:			
Field measurement calibration records			NA
pH - ± 0.3 pH units	☐	☐	
S.C. - ± 5% of calibration solution, within? calibration range	☐	☐	
Temperature - ± 0.5 °C	☐	☐	
D.O. - ± 5% of calibration solution	☐	☐	
Groundwater field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Soil sampling field measurements (if applicable)			
OVM - ± 2 ppm	☐	☐	
OVA - ± 2 ppm	☐	☐	
Sediment sampling field measurements (if applicable)			
Descriptive information recorded?	☐	☐	
Surface water sampling field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Low-flow sampling field measurements (if applicable)			
S.C. - ± 10%	☐	☐	
pH - ± 0.2 pH units	☐	☐	
Temperature - ± 10%	☐	☐	
Turbidity - ±5 NTU	☐	☐	
Documentation of field activities			
Site-specific information documented in field notebook?	☑	☐	
Field data sheets completed?	☑	☐	
Sample numbering and labeling			
Sample numbering conforms to sample I.D. system identified in QAPP?	☐	☑	numbering system specific to building materials was used
Chain-of-Custody records			
Chain-of-Custody forms completed?	☑	☐	field data sheets served as COC

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST
(Continued) EMSL 04131371 (PLM + point count)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	
Duplicate samples			
Field duplicates performed, 1/20 samples?	☐	☐	
Duplicates performed on 10% of samples screened for explosives?	☐	☐	
Is percent difference within 30% for all field parameters?	☐	☐	
Equipment blanks			
Equipment blanks submitted, one per sampling day?	☐	☐	
Any compounds detected in equipment blank?	☐	☐	
Split samples (if any)			
Split samples collected?	☐	☐	
Is percent difference within 30% for split samples?	☐	☐	

2. LABORATORY MEASUREMENTS:

Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	
Instrument blanks**	☑	☐	according to narrative
Laboratory control samples**	☑	☐	
Duplicates samples**	☑	☐	
Equipment blanks**	☐	☐	NA
Matrix spike/matrix spike duplicates**	☐	☐	
Analysis type	☑	☐	TC
Chain-of-Custody records	☑	☐	
Surrogate recoveries**	☐	☐	NA
Sample Project Narratives	☑	☐	
Split samples (if any)**	☐	☐	NA
Most recent EPA WP-PE sample results**	☐	☐	

Appendix D

Asbestos TEM Laboratory Analytical Results

Modified Tier II
Data Validation Narrative

Project: 20081593.B10, Former Liberty Street School

EMSL Laboratory Project Numbers:	041131371 and 041131910
Date Samples Received at Laboratory:	December 1, 2011
Date of Review:	February 20, 2012

On December 1, 2011, EMSL Analytical, Inc. (EMSL) received 182 bulk building materials samples from Fuss & O'Neill, care of ESS Laboratory. The samples were submitted to EMSL for analysis of asbestos content using a variety of analytical methods.

Initially, the samples were analyzed via polarized light microscopy (PLM) using procedures documented in United States Environmental Protection Agency (USEPA) Method 600/R-93/116. Following initial analysis, on December 8, 2011, Fuss & O'Neill requested that two samples be additionally analyzed via PLM 400 Point Count using procedures documented in USEPA Method 600/R-93/116. Seventeen samples were also requested for analysis via Transmission Electron Microscopy and the Chatfield Method.

Analytical results were expressed in percent asbestos content, with a quantification limit of <1%. The correct samples were analyzed via the appropriate requested methods. When appropriate and as requested by Fuss & O'Neill, analyses of samples comprising a sample group of the same material were stopped upon confirmation that an initial sample in the group contained asbestos.

Transcription errors resulted in multiple erroneous sample location and/or material type references for select samples documented in analytical report 041131371. However, asbestos was not detected in any of the samples affected by these errors; neither in the samples themselves, nor in the materials erroneously referred to in the sample descriptions. As such, these transcription errors did not affect the overall usability of the asbestos data.

No other significant laboratory non-conformances or deviations from the *Site-Specific QAPP Addendum* were noted for the asbestos samples and analyses. According to the case narratives and the *Modified Tier II Data Validation Checklist* associated with these analytical reports, analyses of batch blanks, laboratory duplicates, and laboratory control samples were performed and within acceptable quality control range. In summary, the asbestos data were considered usable for the purposes of quantifying asbestos content in the sampled building materials and developing a cost estimate for abatement activities.

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-0235

January 18, 2012

Karron Redfield
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Re: **Narrative EMSL Order ID 041131910**

Dear Karron

On December 1, 2011 EMSL Analytical, Inc.(Woburn, MA) received 182 bulk samples for the 20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL project . These samples were sent by overnight shipping carrier to EMSL-Cinnaminson, NJ. The EMSL NJ lab accepted these samples and received them on December 1, 2011. All samples were logged in following normal lab procedures and were received in acceptable condition. All 182 samples were present and in acceptable condition. The samples were initially analyzed by PLM EPA 600/R-93/11 –116**.**

TEM CHATFIELD METHOD

After initial PLM analysis and data review by the client, 17 samples were chosen by the client for follow-up TEM analysis via the Chatfield Method. This method incorporates matrix reduction and preparation (organic/inorganic components). Asbestos content in the s amples are reported on a % basis with established ranges used for the final residue asbestos concentration. The limit of quantification for this method of <1%. Positive stops as well as sample layers were established by the client as applicable..

TEM batch lab blanks, scope alignments, inter and intra QC analysis were performed in accordance with EMSL's QC SOP. All QC data was deemed as acceptable.

Stephen Siegel, CIH
Asbestos Lab Manager
EMSL Cinnaminson, NJ

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: cinnasblab@EMSL.com

Attn: **Pat Dowling**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (888) 838-1160 Phone: (860) 646-2469

Project: **Original 041131371--20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
Customer PO:
Received: 12/08/11 2:50 PM
EMSL Order: 041131910

EMSL Proj:
Analysis Date: 12/13/2011

Test Report: Asbestos Analysis of Bulk Materials via Transmission Electron Microscopy. Chatfield Method (rev 2)

SAMPLE ID	COLOR	APPROX. MATRIX MATERIAL	NON-ASBESTOS FIBERS	RANGE	ASBESTOS TYPE	AVG
1129JH-05A *041131910-0001*	White	95.9%		2.7-5.5%	Anthophyllite	4.1%
				<1%	Chrysotile	<1%
1129JH-09A *041131910-0002*	Tan	100.0%	ND		ND	
1129JH-14A *041131910-0003*	gray white	96.3%		2.4-4.9%	Chrysotile	3.7%
1129JH-15A *041131910-0004*	Red	100.0%	ND		ND	
1129JH-15B *041131910-0005*	Red	100.0%	ND		ND	
1129JH-16A *041131910-0006*	White	92.8%		6.2-8.3%	Anthophyllite	7.2%
1129JH-18A *041131910-0007*	gray tan	94.3%		3.8-7.7%	Anthophyllite	5.7%
1129JH-19A *041131910-0008*	Brown	100.0%	ND		ND	
1129JH-20A *041131910-0009*	Brown	100.0%	ND		ND	
1129JH-22A *041131910-0010*	Gray	100.0%	ND		ND	
1129JH-25A *041131910-0011*	gray tan	100.0%	ND		ND	

Initial report from 12/13/2011 00:42:24

Analyst(s)
Debbie Little (17)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: cinnasblab@EMSL.com

Attn: **Pat Dowling**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (888) 838-1160 Phone: (860) 646-2469

Project: **Original 041131371--20081593.B10/RIDEM-FORMER LIBERTY ST. SCHOOL - FORMER LIBERTY ST. SCHOOL**

Customer ID: ENVI54
Customer PO:
Received: 12/08/11 2:50 PM
EMSL Order: 041131910

EMSL Proj:
Analysis Date: 12/13/2011

Test Report: Asbestos Analysis of Bulk Materials via Transmission Electron Microscopy. Chatfield Method (rev 2)

SAMPLE ID	COLOR	APPROX. MATRIX MATERIAL	NON-ASBESTOS FIBERS	RANGE	ASBESTOS TYPE	AVG
1129JH-27A *041131910-0012*	Yellow	100.0%	ND		ND	
1129JH-28A *041131910-0013*	Brown	100.0%	ND		ND	
1129JH-29A *041131910-0014*	Yellow	100.0%	ND		ND	
1129JH-30A *041131910-0015*	Brown	100.0%	ND		ND	
1129JH-41A *041131910-0016*	White	100.0%	ND		ND	
1129JH-42A *041131910-0017*	Tan	100.0%		<1%	Anthophyllite	<1%

Initial report from 12/13/2011 00:42:24

Analyst(s)
Debbie Little (17)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872

THIS IS THE LAST PAGE OF THE REPORT.

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS

EMSL Order IDs
041131371/041131910

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	☐	☐	N/A
2.	Traffic Report	☐	☐	N/A
3.	Volatiles Data			
a.	Sample Data			
	Target Compound List (TCL) Results	☐	☐	N/A
	Reconstructed total ion chromatograms (RIC) for each sample	☐	☐	N/A
	For each sample:			
	Raw spectra and background-subtracted mass spectra of target compounds identified	☐	☐	N/A
	Mass spectra of all reported TICs with three best library matches	☐	☐	N/A
	Percent solids calculations	☐	☐	N/A
b.	Standards Data (all instruments)			
	Initial Calibration Data	☐	☐	N/A
	RICs and Quan Reports for all Standards	☐	☐	N/A
	Continuing Calibration	☐	☐	N/A
	RICs and Quan Reports for all Standards	☐	☐	N/A
	Internal Standard Area Summary	☐	☐	N/A
c.	Raw QC Data			
	Blank Data	☐	☐	N/A
	Matrix Spike Data	☐	☐	N/A
	Matrix Spike Duplicate Data	☐	☐	N/A
4.	Semivolatiles Data			
a.	QC Summary			
	Surrogate Percent Recovery Summary	☐	☐	N/A
	MS/MSD Summary	☐	☐	N/A
	Method Blank Summary	☐	☐	N/A
	Tuning and Mass Calibration	☐	☐	N/A

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

	YES	NO	COMMENTS
b. Sample Data			
TCL Results	☐	☐	N/A
Tentatively Identified Compounds	☐	☐	N/A
Reconstructed total ion chromatograms (RIC) for each Sample	☐	☐	N/A
For each sample:			
Raw spectra and background-subtracted mass spectra of TCL compounds	☐	☐	N/A
Mass spectra of TICs with 3 best library matches	☐	☐	N/A
GPC chromatograms (if GPC performed)	☐	☐	N/A
c. Standards Data (all instruments)			
Initial Calibration Data	☐	☐	N/A
RICs and Quan Reports for all Standards	☐	☐	N/A
Continuing Calibration	☐	☐	N/A
RICs and Quan Reports for all Standards	☐	☐	N/A
Internal Standard Areas Summary	☐	☐	N/A
Internal Standard Areas Summary	☐	☐	N/A
d. Raw QC Data			
Decafluorotripbenylphosphine (DFTPP)	☐	☐	N/A
Blank Data	☐	☐	N/A
Matrix Spike Data	☐	☐	N/A
Matrix Spike Duplicate Data	☐	☐	N/A
5. Miscellaneous Data			
Original preparation and analysis forms or copies of preparation and analysis log book pages	☐	☐	N/A
Internal sample & sample extract transfer chain-of custody records	☐	☐	N/A
Screening Records	☐	☐	N/A
All instrument output, including strip charts from screening activities (describe or list)	☐	☐	N/A

_____

_____

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
6.	Chain-of-Custody Records	☐	☐	N/A
	Sample Log-in Sheet (Lab & DC1)	☐	☐	N/A
	Miscellaneous Shipping/Receiving Records (describe or list)	☐	☐	N/A
7.	Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)	☐	☐	N/A
8.	Other Records (describe or list)	☐	☐	N/A

9. Comments:

** See laboratory Quality Assurance Plan for limits.

Completed by: (Lab) — Stephen Siegel (Signature) — Stephen Siegel/Lab Mgr (Printed Name/Title) — 12/23/11 (Date)

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: (Lab) — Stephen Siegel (Signature) — Stephen Siegel/Lab Mgr (Printed Name/Title) — 12/23/11 (Date)

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST INORGANIC COMPOUNDS

EMSL Order IDs
041131371/041131910

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	X		
2.	Inorganic Analysis Data Sheet			N/A
3.	Initial and Continuing Calibration Verification			N/A
4.	CRDL Standard for AA and ICP			N/A
5.	Blanks	X		
6.	ICP Interference Check Sample			N/A
7.	Spike Sample Recovery			N/A
8.	Post Digest Spike Sample Recovery			N/A
9.	Duplicates	X		
10.	Laboratory Control Sample	X		
11.	Standard Addition Results			N/A
12.	ICP Serial Dilutions			N/A
13.	Instrument Detection Limits, Quarterly			N/A
14.	ICP Interelement Correction Factors, Annually			N/A
15.	ICP Linear Ranges Quarterly			N/A
16.	Preparation Log			N/A
17.	Analysis Run Log			N/A
18.	ICP Raw Data			N/A
19.	Furnace AA Raw Data			N/A
20.	Mercury Raw Data			N/A
21.	Percent Solids Calculations			N/A
22.	Digestion Logs			N/A
23.	EPA Shipping/Receiving Records (List all individual records)			N/A
	Chain-of Custody Records			N/A
	Sample Log-In sheet			N/A
24.	Miscellaneous Shipping/Receiving Records (List all individual records)			N/A

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
INORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
25.	Internal Lab Sample Transfer Records and Tracking Sheets (Describe or List) Internal COC			
26.	Internal Original Sample Preparation and analysis Records			
	(Describe or List	☐	☐	
	Preparation Records	☐ x	☐	
	Analysis Records	☐ x	☐	
	Description	☐	☐	
27.	Other Records (Describe or List)			
28.	Comments:			

** See laboratory Quality Assurance Plan for limits.

Completed by: Stephen Siegel — Stephen Siegel/Lab Mgr — 12/23/11
(Lab) (Signature) (Printed Name/Title) Date

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: Stephen Siegel — Stephen Siegel/Lab Mgr — 12/23/11
(Lab) (Signature) (Printed Name/Title) Date

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND MODIFIED TIER I COMPLETENESS CHECKLIST

04113191O (TEM)

	YES	NO
1. SAMPLING AND FIELD MEASUREMENTS:		
Field measurement calibration records	☐	☐ NA
Groundwater field measurements (if applicable)	☐	☐
Soil sampling field measurements (if applicable)	☐	☐
Sediment sampling field measurements (if applicable)	☐	☐
Surface water sampling field measurements (if applicable)	☐	☐
Low-flow sampling field measurements (if applicable)	☐	☐
Documentation of field activities	☑	☐
Sample numbering and labeling	☑	☐
Chain-of-Custody records	☑	☐
Trip blanks	☐	☐ NA
Duplicate samples	☐	☐
Equipment blanks	☐	☐
Split samples (if any)	☐	☐
2. LABORATORY MEASUREMENTS:		
Trip blanks	☐	☐ NA
Instrument blanks	☑	☐ TC according to narrative
Laboratory control samples	☑	☐
Duplicates samples	☑	☐
Equipment blanks	☑ TC	☐ NA
Matrix spike/matrix spike duplicates	☐	☐ NA
Analysis type	☑	☐
Chain-of-Custody records	☑	☐
Surrogate recoveries	☐	☐ NA
Sample Project Narratives	☑	☐
Split samples (if any)	☐	☐ NA
TOTAL:	9	0

PERCENT COMPLETE: 100 %

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST

04113191 (TEM)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
1. SAMPLING AND FIELD MEASUREMENTS:			
Field measurement calibration records			NA
pH - ± 0.3 pH units	☐	☐	
S.C. - ± 5% of calibration solution, within? calibration range	☐	☐	
Temperature - ± 0.5 °C	☐	☐	
D.O. - ± 5% of calibration solution	☐	☐	
Groundwater field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Soil sampling field measurements (if applicable)			
OVM - ± 2 ppm	☐	☐	
OVA - ± 2 ppm	☐	☐	
Sediment sampling field measurements (if applicable)			
Descriptive information recorded?	☐	☐	
Surface water sampling field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Low-flow sampling field measurements (if applicable)			
S.C. - ± 10%	☐	☐	
pH - ± 0.2 pH units	☐	☐	
Temperature - ± 10%	☐	☐	
Turbidity - ±5 NTU	☐	☐	✓
Documentation of field activities			
Site-specific information documented in field notebook?	☑	☐	
Field data sheets completed?	☑	☐	
Sample numbering and labeling			
Sample numbering conforms to sample I.D. system identified in QAPP?	☐	☑	numbering system specific to building materials was used
Chain-of-Custody records			
Chain-of-Custody forms completed?	☑	☐	field data sheets served as COC

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST
(Continued)

041131910 (TEM)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	
Duplicate samples			
Field duplicates performed, 1/20 sampl es?	☐	☐	
Duplicates performed on 10% of samples screened for explosives?	☐	☐	
Is percent difference within 30% for all field parameters?	☐	☐	
Equipment blanks			
Equipment blanks submitted, one per sampling day?	☐	☐	
Any compounds detected in equipment blank?	☐	☐	
Split samples (if any)			
Split samples collected?	☐	☐	
Is percent difference within 30% for split samples?	☐	☐	

2. LABORATORY MEASUREMENTS:

Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	↓
Instrument blanks**	☑	☐	according to narrative
Laboratory control samples**	☑	☐	↓
Duplicates samples**	☑	☐	↓
Equipment blanks**	☐	☐	NA
Matrix spike/matrix spike duplicates**	☐	☐	
Analysis type	☑	☐	
Chain-of-Custody records	☑	☐	
Surrogate recoveries**	☐	☐	NA
Sample Project Narratives	☑	☐	
Split samples (if any)**	☐	☐	NA
Most recent EPA WP-PE sample results**	☐	☐	↓

Appendix E

XRF Lead Screening Field Data Sheets

FUSS & O'NEILL
EnviroScience, LLC

Project #_____ Address Liberty Street School Date 11/29/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
Boiler Rm	A	Boiler Door	1.9	Y	M
	A	↓ Frame	-0.1		W
		walls	0.1		P
	D3	window Frame	>9.9	Y	W
	D	Radiator	0.4		M
		Boiler Front	0.6		M
		Ceiling	-0.2		D
Stairs Basement		Riser	-0.1		W
		Tread	-0.1		W
		Handrail	-0.1		W
		wall	0.0		D
Basement		overhead Pipes	-0.1		M
		Ceiling	-0.1		D
		walls	-0.1		Brick
	B	Beadboard Door	5.2	Y	W
		walls o/s Girls Room	0.2		Brick
Girls Bath Basement		Door Frame	>9.9	Y	W
		walls	-0.2		P
		Radiator	0.2		M
		Stall	0.2		M
		Floor	-0.1		C
Carpeted Room (Basement)		Door	7.3	Y	W
		↓ Frame	0.3		W
	C	wall	0.0		Brick
		ceiling	-0.2		D
Room off Boys Bath (Basement)	C	Door	>9.9	Y	W
		Lally Column	9.1	Y	M
	B	wall	-0.1		W
Boy's Bath (Basement)		wall	-0.1		P
		Stall	-0.1		M
		Sinks	>9.9	Y	M
		window Sill	0.0		B
	D1	↓ Frame	9.6	Y	W
		Floor	0.0		C
Exterior		Soffit / Cupola	4.3->9.9	Y	W
		Lower Foundation	0.1		C
		Exterior window Sill / Header	1.4	Y	Limestone
	D	Door	0.0		W
	D	↓ Frame	5.8	Y	W

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

FUSS & O'NEILL
EnviroScience, LLC

Project #_____ Address Liberty Street School Date 11/29/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
Ext. (cont)	D	Handrail (Green)	0.0		M
	B+D	Door to Basement	0.4		W
	↓	Entryway	0.0		W
	↓	↓ Tin Roof	>9.9	Y	M
	D	Fire Escape	-0.1		M
	D	Fire Escape Supports	2.9	Y	M
	D	↓ Stringer	8.9	Y	M
	A	Main Door Casing	>9.9	Y	W
	A	Door	2.5	Y	W
	A	↓ Frame	>9.9	Y	W
	A	Threshhold	0.0		Stone
	A	Handrail	0.5		M
Student Bathroom		Sill	-0.1		W
1st Floor		Ceiling	0.2		P
		walls	covered		
		Door	0.0		W
		↓ Frame	0.0		W
Entry		Door	0.1		W
1st Floor		↓ Frame	>9.9	Y	W
		walls	0.5		P
		Chair Rail	>9.9	Y	W
		lower wall	3.8	Y	W
		Radiator	0.0		M
Rm A/B		upper wall	0.2		P
1st Floor		lower wall	>9.9	Y	W
		Baseboard	>9.9	Y	W
		window Casing	-0.1		W
		↓ Frame	-0.1		W
		Ceiling	POS	Y	M
		Cabinets	-0.1		W
		Chair Rail	>9.9	Y	W
1st Floor Hall	B	Ext. Door	0.0		W
	B	↓ Frame	3.8	Y	W
		upper wall	4.9	Y	P
		lower wall	>9.9	Y	P
		Chair Rail	1.7	Y	W
		Baseboard	3.7	Y	W
		Riser	0.0		W
		Stringer	-0.1		W

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

FUSS & O'NEILL
EnviroScience, LLC

Project #_____ Address Liberty Street School Date 11/29/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
1st Floor Hall (cont)		Baluster	0.2		W
		newel Post	-0.1		W
Kitchen		Ceiling	-0.1		P
	A1	Door	0.1		M
	↓	↓ Frame	0.0		M
		cabinets	-0.2		W
		upper wall	0.0		P
		window components	0.1		W
Room C/D		upper wall	1.0	Y	P
1st Floor		lower wall	0.1		W
		Chair Rail	0.5		W
		window Components	-0.1		W
		Sink	>9.9	Y	M
		Radiator	0.2		M
Room D/A		upper wall	0.5		P
1st Floor		lower wall	>9.9	Y	W
		Base Board	>9.9	Y	W
		Chair Rail	-0.1		W
		window Components	-0.1		W
		Ceiling	P05	Y	M
	B1	Door	-0.1		W
	↓	↓ Frame	0.1		W
Room A/B		upper wall	0.1		P
2nd Floor		lower wall	0.0		W
		Chair Rail	1.2	Y	W
		window components	0.0		W
	D2	Door	0.1		W
	D2	↓ Frame	0.3		W
		Radiator cover	0.0		W
2nd Floor Hall		Floor	0.2		W
		upper wall	4.6	Y	P
		lower wall	>9.9	Y	W
		Chair Rail	>9.9	Y	W
		Baseboard	>9.9	Y	W
	C1	Door	>9.9	Y	W
	C1	Door Frame	>9.9	Y	W

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

FUSS & O'NEILL
EnviroScience, LLC

Project #_____ Address Liberty Street School Date 11/29/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
Room B/C		upper wall	0.5		P
2nd Floor		lower wall	0.1		W
		window Components	0.1		W
		Chair Rail	-0.1		W
		Ceiling	-0.1		P
Room C/D		upper wall	0.5-1.2	Y	P
2nd Floor		lower wall	0.1		W
		Radiator	0.1		M
		window Components	0.3		W
		Floor	-0.1		W
		Ceiling	0.1		P
Room A/D		upper wall	0.0		P
2nd Floor		lower wall	0.0		W
		Chair Rail	-0.1		W
		BaseBoard	0.0		W
		ceiling	POS	Y	M
		window components	0.0-0.3		W

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

Appendix F

TCLP Lead Laboratory Analytical Results

FUSS & O'NEILL

Modified Tier II
Data Validation Narrative

Project: 20081593.B10, Former Liberty Street School

ESS Laboratory Project Number:	1111486
Date Samples Received at Laboratory:	November 30, 2011
Date of Review:	February 21, 2012

One composited building materials sample, plus one duplicate sample, were collected and submitted to ESS Laboratory (ESS) and analyzed for lead via the Toxicity Characteristic Leaching Procedure (TCLP) by United States Environmental Protection Agency (USEPA) Method 1311/6010.

Dedicated sampling equipment was utilized, so equipment blanks and field blanks were not collected during these sampling activities. The samples were analyzed within the method-specific holding times.

No analytical method non-conformances were reported in this analytical report. The relative percent difference calculated using the data for the primary and duplicate samples was 2%. Based on this RPD result, the precision of the data has not been significantly affected by the extraction process or sample heterogeneity.

Analytical results were compared to the USEPA Resource Conservation and Recovery Act (RCRA) hazardous waste criterion for TCLP lead of 5.0 milligrams per liter. For both samples, the laboratory reporting limits were low enough to allow direct comparison to this criterion.

CERTIFICATE OF ANALYSIS

Pat Dowling
Fuss & O'Neill, Inc.
317 Iron Horse Way, Suite 204
Providence, RI 02908

RE: RIDEM - Former Liberty School (20081593.B10)
ESS Laboratory Work Order Number: 1111486

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

Laurel Stoddard
Laboratory Director

REVIEWED
By mpagliarini at 2:45 pm, Dec 08, 2011

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

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111486

SAMPLE RECEIPT

The following samples were received on November 30, 2011 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	SampleName	Matrix	Analysis
1111486-01	1129JH-TCLP-01	Solid	1311/6010B
1111486-02	1129JH-TCLP-02	Solid	1311/6010B

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111486

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-TCLP-01
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Work Order: 1111486
ESS Laboratory Sample ID: 1111486-01
Sample Matrix: Solid
Units: mg/L

TCLP Extraction Date: 11/30/11 16:55

1311/6000/7000 TCLP Metals

Analyte	Results (MRL)	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.042** (0.020)	1311/6010B	5	1	JP	12/02/11 1:54	50	50	CL10119

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-TCLP-02
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Work Order: 1111486
ESS Laboratory Sample ID: 1111486-02
Sample Matrix: Solid
Units: mg/L

TCLP Extraction Date: 11/30/11 16:55

1311/6000/7000 TCLP Metals

Analyte	Results (MRL)	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.041** (0.020)	1311/6010B	5	1	JP	12/02/11 2:07	50	50	CL10119

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111486

Quality Control Data

Analyte		Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311/6000/7000 TCLP Metals											
Batch CL10119 - 3005A											
Blank											
Lead		ND	0.020	mg/L							
LCS											
Lead		0.503	0.020	mg/L	0.5000		101	80-120			
LCS Dup											
Lead		0.500	0.020	mg/L	0.5000		100	80-120	0.5	20	
Duplicate	**Source: 1111486-02**										
Lead		0.040	0.020	mg/L		0.041			3	20	
Matrix Spike	**Source: 1111486-02**										
Lead		0.502	0.020	mg/L	0.5000	0.041	92	75-125			

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111486

Notes and Definitions

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

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111486

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

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

Maine Potable and Non Potable Water: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

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

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

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

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

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- ❑ 78 Interstate Drive, West Springfield, MA 01089

307 Iron Horse Way. Suite 204

- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ☒ ~~375 Promenade Street, Suite 350~~, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 24637

Turnaround

❑ 1 Day* ❑ 3 Days* ❑ Other _____ (days)
❑ 2 Days* ☒ Standard (____ days) *Surcharge Applies

Project Name	Project Location	Project Number	Laboratory
RIDEM - Former Liberty ST. School	Warren, RI	20081593.B10	ESS

Report To: Pat Dowling

Invoice To: Cynthia Giambanesco, RIDEM (MPA)

P.O. No.:

Sampler's Signature: Jon Hand Date: 11/29/11

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other Solid

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TCLP - Lead	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water	Glass Soil Container ( ) oz [ ] $Na(SO_4)_2$	Glass Soil Container ( ) oz	Other: Plastic Bag	Water VOA Vial, [ ] As is [ ] HCl	Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4	Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml	Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml	Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered	Plastic - NaOH, 250 ml	Comments
01					1129JH-TCLP-01	X	11/29/11	PM	X					X							Composite
02					↓ - ↓ -02	X	↓	PM	X					X							Duplicate of -01

Transfer Number	Relinquished By	Accepted By	Date	Time
1	~~Jon Hand~~	~~Prov Fridge~~	~~11/30/11~~	~~AM~~
2	[signature]	BC	11/30/11	1500
3				
4				

Reporting and Detection Limit Requirements: 0.02 mg/L

Additional Comments:
Cooler temp received @ not Recorded EO 11/30/11

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST INORGANIC COMPOUNDS

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	☒	☐	
2.	Inorganic Analysis Data Sheet	☒	☐	
3.	Initial and Continuing Calibration Verification	☒	☐	
4.	CRDL Standard for AA and ICP	☒	☐	
5.	Blanks	☒	☐	
6.	ICP Interference Check Sample	☒	☐	
7.	Spike Sample Recovery	☒	☐	
8.	Post Digest Spike Sample Recovery	☐	☐	
9.	Duplicates	☒	☐	
10.	Laboratory Control Sample	☒	☐	
11.	Standard Addition Results	☐	☒	
12.	ICP Serial Dilutions	☐	☐	
13.	Instrument Detection Limits, Quarterly	☐	☒	
14.	ICP Interelement Correction Factors, Annually	☒	☐	
15.	ICP Linear Ranges Quarterly	☐	☐	
16.	Preparation Log	☒	☐	☐
17.	Analysis Run Log	☒	☐	
18.	ICP Raw Data	☒	☐	
19.	Furnace AA Raw Data	☐	☒	
20.	Mercury Raw Data	☐	☒	
21.	Percent Solids Calculations	☐	☒	
22.	Digestion Logs	☒	☐	
23.	EPA Shipping/Receiving Records (List all individual records)	☐	☒	
	Chain-of Custody Records	☒	☐	
	Sample Log-In sheet	☒	☐	
24.	Miscellaneous Shipping/Receiving Records (List all individual records)	☒	☐	

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
INORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
25.	Internal Lab Sample Transfer Records and Tracking Sheets (Describe or List) BARCODE			
26.	Internal Original Sample Preparation and analysis Records			
	(Describe or List	☐	☐	
	Preparation Records	☐	☐	
	Analysis Records	☐	☐	
	Description	☐	☐	
27.	Other Records (Describe or List)			
28.	Comments:			

** See laboratory Quality Assurance Plan for limits.

Completed by: (Lab) (Signature) LAURIE STODDARD (Printed Name/Title) 12/23/11 Date

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: (Lab) (Signature) (Printed Name/Title) Date

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND MODIFIED TIER I COMPLETENESS CHECKLIST

ESS 1111486

	YES	NO
1. SAMPLING AND FIELD MEASUREMENTS:		
Field measurement calibration records	☐	☐ NA
Groundwater field measurements (if applicable)	☐	☐
Soil sampling field measurements (if applicable)	☐	☐
Sediment sampling field measurements (if applicable)	☐	☐
Surface water sampling field measurements (if applicable)	☐	☐
Low-flow sampling field measurements (if applicable)	☐	☐
Documentation of field activities	☑	☐
Sample numbering and labeling	☑	☐
Chain-of-Custody records	☑	☐
Trip blanks	☐	☐ NA
Duplicate samples	☑	☐
Equipment blanks	☐	☐ NA
Split samples (if any)	☐	☐
2. LABORATORY MEASUREMENTS:		
Trip blanks	☐	☐ NA
Instrument blanks	☑	☐
Laboratory control samples	☑	☐
Duplicates samples	☑	☐
Equipment blanks	☐	☐ NA
Matrix spike/matrix spike duplicates	☑	☐ ~~☑~~ TC MS only
Analysis type	☑	☐
Chain-of-Custody records	☑	☐
Surrogate recoveries	☐	☐ NA
Sample Project Narratives	☑	☐
Split samples (if any)	☐	☐ NA
TOTAL:	~~10~~ 11	0

PERCENT COMPLETE: 100 %

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST

ESS111486

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
1. SAMPLING AND FIELD MEASUREMENTS:			
Field measurement calibration records			
pH - ± 0.3 pH units	☐	☐	NA
S.C. - ± 5% of calibration solution, within? calibration range	☐	☐	
Temperature - ± 0.5 °C	☐	☐	
D.O. - ± 5% of calibration solution	☐	☐	
Groundwater field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Soil sampling field measurements (if applicable)			
OVM - ± 2 ppm	☐	☐	
OVA - ± 2 ppm	☐	☐	
Sediment sampling field measurements (if applicable)			
Descriptive information recorded?	☐	☐	
Surface water sampling field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Low-flow sampling field measurements (if applicable)			
S.C. - ± 10%	☐	☐	
pH - ± 0.2 pH units	☐	☐	
Temperature - ± 10%	☐	☐	
Turbidity - ±5 NTU	☐	☐	
Documentation of field activities			
Site-specific information documented in field notebook?	☑	☐	
Field data sheets completed?	☑	☐	
Sample numbering and labeling			
Sample numbering conforms to sample I.D. system identified in QAPP?	☐	☑	numbering system specific to building materials used
Chain-of-Custody records			
Chain-of-Custody forms completed?	☑	☐	

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST
(Continued) ESS 1111486

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	↓
Duplicate samples			
Field duplicates performed, 1/20 samples?	☑	☐	
Duplicates performed on 10% of samples screened for explosives?	☐	☐	NA
Is percent difference within 30% for all field parameters?	☐	☐	
Equipment blanks			
Equipment blanks submitted, one per sampling day?	☐	☐	
Any compounds detected in equipment blank?	☐	☐	
Split samples (if any)			
Split samples collected?	☐	☐	
Is percent difference within 30% for split samples?	☐	☐	↓

2. LABORATORY MEASUREMENTS:

Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	↓
Instrument blanks**	☑	☐	
Laboratory control samples**	☑	☐	
Duplicates samples**	☑	☐	
Equipment blanks**	☐	☐	NA
Matrix spike/matrix spike duplicates**	☑	☐	~~B~~ TC MS only
Analysis type	☑	☐	
Chain-of-Custody records	☑	☐	
Surrogate recoveries**	☐	☐	NA
Sample Project Narratives	☑	☐	
Split samples (if any)**	☐	☐	NA
Most recent EPA WP-PE sample results**	☐	☐	↓

Appendix G

Lead Paint Chip Laboratory Analytical Results

FUSS & O'NEILL

Modified Tier II
Data Validation Narrative

Project: 20081593.B10, Former Liberty Street School

ESS Laboratory Project Number:	111488
Date Samples Received at Laboratory:	November 30, 2011
Date of Review:	February 21, 2012

Eleven paint samples, including one duplicate sample, were collected and submitted to ESS Laboratory (ESS) for analysis of total lead concentration by United States Environmental Protection Agency (USEPA) Method 6010.

Dedicated sampling equipment was utilized, so equipment blanks and field blanks were not collected during these sampling activities. The samples were analyzed within the method-specific holding times.

As documented in the case narrative included in the analytical report, the matrix spike introduced to sample 1129JH-PC-10 was not recovered because the spiked concentration was less than the reporting limit, which was elevated due to sample dilutions necessitated by the high concentration of lead in the sample. However, data usability concerns associated with this non-conformance were mitigated by the results of a duplicate analysis conducted by the laboratory. A duplicate aliquot was obtained from sample 1129JH-PC-10 by the laboratory and the relative percent difference (RPD) calculated using the initial and duplicate lead data was 17%, below the RPD limit of 35%. This observation suggests that the efficiency of the extraction method and precision of the analysis were generally acceptable. Moreover, the additional quality control measures implemented by the laboratory as part of this project, including analyses of method/instrument blanks, laboratory control samples (LCS), LCS duplicates, and spiked reference samples yielded acceptable results.

As reported in the analytical report, the laboratory misplaced the field duplicate sample collected by Fuss & O'Neill. In response to this error, the laboratory obtained a separate aliquot from the corresponding primary sample and designated it as the duplicate sample. The RPD calculated for this primary-duplicate sample pair was 23%, which further supports the above observation that precision of the data has not been significantly affected by the extraction process or sample heterogeneity.

Analytical results for the building materials samples were compared to the Rhode Island Department of Health definition of lead-containing paint, which is 150 milligrams per kilogram (mg/kg) for building occupancy. The concentration of lead detected in each sample exceeded this criterion.

CERTIFICATE OF ANALYSIS

Pat Dowling
Fuss & O'Neill, Inc.
317 Iron Horse Way, Suite 204
Providence, RI 02908

RE: RIDEM - Former Liberty School (20081593.B10)
ESS Laboratory Work Order Number: 1111488

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

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:11 pm, Jan 18, 2012

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

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

SAMPLE RECEIPT

The following samples were received on November 30, 2011 for the analyses specified on the enclosed Chain of Custody Record.

The sample for 1st Floor Upper Wall Rm D/A duplicate (1111488-11) was misplaced in the laboratory. The analyst used material from 1st Floor Upper Wall Rm D/A (1111488-05) for this sample.

Lab Number	SampleName	Matrix	Analysis
1111488-01	1129JH-PC-01	Solid	6010B
1111488-02	1129JH-PC-02	Solid	6010B
1111488-03	1129JH-PC-03	Solid	6010B
1111488-04	1129JH-PC-04	Solid	6010B
1111488-05	1129JH-PC-05	Solid	6010B
1111488-06	1129JH-PC-06	Solid	6010B
1111488-07	1129JH-PC-07	Solid	6010B
1111488-08	1129JH-PC-08	Solid	6010B
1111488-09	1129JH-PC-09	Solid	6010B
1111488-10	1129JH-PC-10	Solid	6010B
1111488-11	1129JH-PC-11	Solid	6010B

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111488

PROJECT NARRATIVE

3050B/6000/7000 Total Metals
CL10631-MS1 **Matrix Spike is diluted below the MRL (MD).**
Lead (-19400% @ 75-125%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

3050B/6000/7000 Total Metals

Client Sample ID: 1129JH-PC-01
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-01
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.083**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:30	25.8	100
Lead	**4180**	mg/kg wet	196	6010B	10	SVD	12/07/11 19:30	0.51	100

Client Sample ID: 1129JH-PC-02
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-02
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**1560**	mg/kg wet	192	6010B	10	SVD	12/07/11 19:34	0.52	100
Lead	**0.031**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:34	25.8	100

Client Sample ID: 1129JH-PC-03
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-03
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**813**	mg/kg wet	189	6010B	10	SVD	12/07/11 19:38	0.53	100
Lead	**0.017**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:38	25.8	100

Client Sample ID: 1129JH-PC-04
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-04
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.106**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:43	25.8	100
Lead	**5240**	mg/kg wet	192	6010B	10	SVD	12/07/11 19:43	0.52	100

Client Sample ID: 1129JH-PC-05
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-05
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.074**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:47	25.8	100
Lead	**3280**	mg/kg wet	172	6010B	10	SVD	12/07/11 19:47	0.58	100

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

3050B/6000/7000 Total Metals

Client Sample ID: 1129JH-PC-06
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-06
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.454**	mg/cm2	0.008	6010B	20	SVD	12/08/11 17:41	25.8	100
Lead	**23000**	mg/kg wet	392	6010B	20	JP	12/08/11 17:41	0.51	100

Client Sample ID: 1129JH-PC-07
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-07
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**323**	mg/kg wet	303	6010B	10	SVD	12/07/11 20:04	0.33	100
Lead	**0.004**	mg/cm2	0.004	6010B	10	SVD	12/07/11 20:04	25.8	100

Client Sample ID: 1129JH-PC-08
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-08
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**1660**	mg/kg wet	179	6010B	10	SVD	12/07/11 20:08	0.56	100
Lead	**0.036**	mg/cm2	0.004	6010B	10	SVD	12/07/11 20:08	25.8	100

Client Sample ID: 1129JH-PC-09
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-09
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.0005**	mg/cm2	0.0004	6010B	1	SVD	12/08/11 17:37	25.8	100
Lead	**256**	mg/kg wet	200	6010B	1	JP	12/08/11 17:37	0.05	100

Client Sample ID: 1129JH-PC-10
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-10
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**2.46**	mg/cm2	0.048	6010B	125	SVD	12/08/11 17:46	25.8	100
Lead	**127000**	mg/kg wet	2500	6010B	125	JP	12/08/11 17:46	0.5	100

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

3050B/6000/7000 Total Metals

Client Sample ID: 1129JH-PC-11
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-11
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**2940**	mg/kg wet	192	6010B	10	JP	01/06/12 16:55	0.52	100
Lead	**0.006**	mg/cm2	0.0004	6010B	1	SVD	01/06/12 16:55	25.8	100

This result was revised by lab due to erroneous dilution factor. See revised lab report dated April 13, 2012 for correct result.

This dilution factor was reported erroneously. See revised lab report dated April 13, 2012 for correct dilution factor.

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111488

Quality Control Data

3050B/6000/7000 Total Metals

Analyte		Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CA20514 - 3050B											
Blank											
Lead		ND	5.0	mg/kg wet							
LCS											
Lead		123	17.2	mg/kg wet	137.0		89	80-120			
LCS Dup											
Lead		116	17.2	mg/kg wet	137.0		84	80-120	6	20	
Reference											
Lead		4090	323	mg/kg wet	4490		91	80-120			
Batch CL10631 - 3050B											
Blank											
Lead		ND	5.0	mg/kg wet							
LCS											
Lead		137	17.2	mg/kg wet	137.0		100	80-120			
LCS Dup											
Lead		133	18.5	mg/kg wet	137.0		97	80-120	2	20	
Duplicate	**Source: 1111488-10**										
Lead		107000	2500	mg/kg wet		127000			17	35	
Matrix Spike	**Source: 1111488-10**										
Lead		107000	2500	mg/kg wet	100.0	127000	NR	75-125			MD
Reference											
Lead		4140	64.5	mg/kg wet	4490		92	80-120			

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111488

Notes and Definitions

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

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

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

Maine Potable and Non Potable Water: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

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

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

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

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

FUSS & O'NEILL
EnviroScience, LLC

50 Redfield Street, Suite 100 Boston, MA 02122

www.fando.com

(617) 282-4675 Fax: (617) 282-8253

1111488

SAMPLE LOG FOR LEAD CHIPS

Sheet No. 1 of 1

Project Name: REDEM - Former Liberty ST School
Building: Former Liberty ST School

Project Number: 20081593.B10
Project Manager: Pat Dowling

	Sample ID Number	Sample Location/Building	Sample Area (size)	Material Type	Result % by WT	Result mg/cm²	Lab Number
01	1129JH-PC-01	Entry upper wall	2"x2"	Paint			
02	- -02	1st Floor Rm A/B window casing					
03	- -03	1st Floor Hall chair Rail					
04	- -04	1st Floor Rm C/D upper wall					
05	- -05	1st Floor Rm D/A upper wall					
06	- -06	2nd Floor Rm A/B chair Rail					
07	- -07	2nd Floor Rm C/D window components					
08	- -08	1st Floor Hall Newel Post					
09	- -09	Boiler Rm Door					
10	- -10	Exterior Soffit					
11	- -11	1st Floor Rm D/A upper wall Duplicate					

Analysis Method: EPA-SW-846-3050(MOD.)

Turnaround Time Standard

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill EnviroScience on or before this date:_____.
Please call the Fuss & O'Neill EnviroScience laboratory at 860-953-2700 if analyses will be late.

~~Fax Results To: Fuss & O'Neill EnviroScience Laboratory at 413-647-0018~~

Special Instructions: *If area is provided above, report results in mg/cm²*

Detection Limit = 6.67 ppm

Samples Collected By: JH Date: 11/29/11 Time: PM
Samples Rec'd/Sent By: / BC Date: 11/30/11 / 11/30/11 Time: 1500 / PM
Samples Received By: Date: Time:

Shipped To: ☒ EMSL (State) NJ ☒ Other ESS

Method of Shipment: ☒ Fed Ex. ☐ UPS Overnight ☐ UPS Ground ☒ Other Pick up

Received in cooler, no Ice Temp not recorded EO 12/1/11

Samples received by BC (ESS Laboratory) 17:00 11/30/11
~~and sent to EMSL NJ by EOut (ESS Laboratory)~~

EO 12/6/11

CERTIFICATE OF ANALYSIS

Pat Dowling
Fuss & O'Neill, Inc.
317 Iron Horse Way, Suite 204
Providence, RI 02908

RE: RIDEM - Former Liberty School (20081593.B10)
ESS Laboratory Work Order Number: 1111488

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

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:42 pm, Apr 13, 2012

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

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

SAMPLE RECEIPT

The following samples were received on November 30, 2011 for the analyses specified on the enclosed Chain of Custody Record.

The sample for 1st Floor Upper Wall Rm D/A duplicate (1111488-11) was misplaced in the laboratory. The analyst used material from 1st Floor Upper Wall Rm D/A (1111488-05) for this sample.

Revision 1, April 13, 2012: This report has been revised to include a corrected dilution factor for 1111488-11.

Lab Number	SampleName	Matrix	Analysis
1111488-01	1129JH-PC-01	Solid	6010B
1111488-02	1129JH-PC-02	Solid	6010B
1111488-03	1129JH-PC-03	Solid	6010B
1111488-04	1129JH-PC-04	Solid	6010B
1111488-05	1129JH-PC-05	Solid	6010B
1111488-06	1129JH-PC-06	Solid	6010B
1111488-07	1129JH-PC-07	Solid	6010B
1111488-08	1129JH-PC-08	Solid	6010B
1111488-09	1129JH-PC-09	Solid	6010B
1111488-10	1129JH-PC-10	Solid	6010B
1111488-11	1129JH-PC-11	Solid	6010B

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111488

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

3050B/6000/7000 Total Metals

Client Sample ID: 1129JH-PC-01
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-01
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.083**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:30	25.8	100
Lead	**4180**	mg/kg wet	196	6010B	10	SVD	12/07/11 19:30	0.51	100

Client Sample ID: 1129JH-PC-02
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-02
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**1560**	mg/kg wet	192	6010B	10	SVD	12/07/11 19:34	0.52	100
Lead	**0.031**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:34	25.8	100

Client Sample ID: 1129JH-PC-03
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-03
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**813**	mg/kg wet	189	6010B	10	SVD	12/07/11 19:38	0.53	100
Lead	**0.017**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:38	25.8	100

Client Sample ID: 1129JH-PC-04
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-04
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.106**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:43	25.8	100
Lead	**5240**	mg/kg wet	192	6010B	10	SVD	12/07/11 19:43	0.52	100

Client Sample ID: 1129JH-PC-05
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-05
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.074**	mg/cm2	0.004	6010B	10	SVD	12/07/11 19:47	25.8	100
Lead	**3280**	mg/kg wet	172	6010B	10	SVD	12/07/11 19:47	0.58	100

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

3050B/6000/7000 Total Metals

Client Sample ID: 1129JH-PC-06
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-06
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.454**	mg/cm2	0.008	6010B	20	SVD	12/08/11 17:41	25.8	100
Lead	**23000**	mg/kg wet	392	6010B	20	JP	12/08/11 17:41	0.51	100

Client Sample ID: 1129JH-PC-07
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-07
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**323**	mg/kg wet	303	6010B	10	SVD	12/07/11 20:04	0.33	100
Lead	**0.004**	mg/cm2	0.004	6010B	10	SVD	12/07/11 20:04	25.8	100

Client Sample ID: 1129JH-PC-08
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-08
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**1660**	mg/kg wet	179	6010B	10	SVD	12/07/11 20:08	0.56	100
Lead	**0.036**	mg/cm2	0.004	6010B	10	SVD	12/07/11 20:08	25.8	100

Client Sample ID: 1129JH-PC-09
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-09
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**0.0005**	mg/cm2	0.0004	6010B	1	SVD	12/08/11 17:37	25.8	100
Lead	**256**	mg/kg wet	200	6010B	1	JP	12/08/11 17:37	0.05	100

Client Sample ID: 1129JH-PC-10
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-10
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**2.46**	mg/cm2	0.048	6010B	125	SVD	12/08/11 17:46	25.8	100
Lead	**127000**	mg/kg wet	2500	6010B	125	JP	12/08/11 17:46	0.5	100

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

3050B/6000/7000 Total Metals

Client Sample ID: 1129JH-PC-11
Date Sampled: 11/29/11 00:00
Percent Solids: N/A

ESS Laboratory Sample ID: 1111488-11
Sample Matrix: Solid

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Lead	**2940**	mg/kg wet	192	6010B	10	JP	01/06/12 16:55	0.52	100
Lead	**0.059**	mg/cm2	0.004	6010B	10	SVD	01/06/12 16:55	25.8	100

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111488

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
3050B/6000/7000 Total Metals										
Batch CA20514 - 3050B										
Blank										
Lead	ND	5.0	mg/kg wet							
LCS										
Lead	123	17.2	mg/kg wet	137.0		89	80-120			
LCS Dup										
Lead	116	17.2	mg/kg wet	137.0		84	80-120	6	20	
Reference										
Lead	4090	323	mg/kg wet	4490		91	80-120			
Batch CL10631 - 3050B										
Blank										
Lead	ND	5.0	mg/kg wet							
LCS										
Lead	137	17.2	mg/kg wet	137.0		100	80-120			
LCS Dup										
Lead	133	18.5	mg/kg wet	137.0		97	80-120	2	20	
Reference										
Lead	4140	64.5	mg/kg wet	4490		92	80-120			

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111488

Notes and Definitions

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

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111488

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

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

Maine Potable and Non Potable Water: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

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

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

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

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

FUSS & O'NEILL
EnviroScience, LLC

50 Redfield Street, Suite 100 Boston, MA 02122

www.fando.com

(617) 282-4675 Fax: (617) 282-8253

1111488

SAMPLE LOG FOR LEAD CHIPS

Sheet No. 1 of 1

Project Name: REDEM - Former Liberty ST School
Building: Former Liberty ST School

Project Number: 20081593.B10
Project Manager: Pat Dowling

	Sample ID Number	Sample Location/Building	Sample Area (size)	Material Type	Result % by WT	Result mg/cm²	Lab Number
01	1129JH-PC-01	Entry upper wall	2"x2"	Paint			
02	- -02	1st Floor Rm A/B window casing					
03	- -03	1st Floor Hall chair Rail					
04	- -04	1st Floor Rm C/D upper wall					
05	- -05	1st Floor Rm D/A upper wall					
06	- -06	2nd Floor Rm A/B chair Rail					
07	- -07	2nd Floor Rm C/D window components					
08	- -08	1st Floor Hall Newel Post					
09	- -09	Boiler Rm Door					
10	- -10	Exterior Soffit					
11	- -11	1st Floor Rm D/A upper wall Duplicate					

Analysis Method: EPA-SW-846-3050(MOD.)

Turnaround Time Standard

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill EnviroScience on or before this date:_____.
Please call the Fuss & O'Neill EnviroScience laboratory at 860-953-2700 if analyses will be late.

~~Fax Results To: Fuss & O'Neill EnviroScience Laboratory at 413-647-0018~~

Special Instructions: *If area is provided above, report results in mg/cm²*

Detection Limit = 6.67 ppm

Samples Collected By: JH Date: 11/29/11 Time: PM
Samples Rec'd/Sent By: / BC Date: 11/30/11 / 11/30/11 Time: 1500 / PM
Samples Received By: Date: Time:

Shipped To: ☒ EMSL (State) NJ ☒ Other ESS

Method of Shipment: ☒ Fed Ex. ☐ UPS Overnight ☐ UPS Ground ☒ Other Pick up

Received in cooler, no Ice Temp not recorded EO 12/1/11

Samples received by BC (ESS Laboratory) 17:00 11/30/11
~~and sent to EMSL NJ by EOut (ESS Laboratory)~~

EO 12/6/11

1112496
1112493
1111488

FUSS & O'NEILL

INITIAL DATE: JULY 2007
REVISION DATE: JULY 2007
REVISION: 0.0

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST INORGANIC COMPOUNDS

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	X		
2.	Inorganic Analysis Data Sheet	X		
3.	Initial and Continuing Calibration Verification	X		
4.	CRDL Standard for AA and ICP	X		
5.	Blanks	X		
6.	ICP Interference Check Sample	X		
7.	Spike Sample Recovery	X		
8.	Post Digest Spike Sample Recovery	X		
9.	Duplicates	X		
10.	Laboratory Control Sample	X		
11.	Standard Addition Results		X	
12.	ICP Serial Dilutions	X		
13.	Instrument Detection Limits, Quarterly		X	
14.	ICP Interelement Correction Factors, Annually	X		
15.	ICP Linear Ranges Quarterly	X		
16.	Preparation Log	X		
17.	Analysis Run Log	X		
18.	ICP Raw Data	X		
19.	Furnace AA Raw Data		X	
20.	Mercury Raw Data		X	
21.	Percent Solids Calculations		X	
22.	Digestion Logs	X		
23.	EPA Shipping/Receiving Records (List all individual records)		X	
	Chain-of Custody Records	X		
	Sample Log-In sheet	X		
24.	Miscellaneous Shipping/Receiving Records (List all individual records)	X		

1112496
1112493
1111488

FUSS & O'NEILL

INITIAL DATE: JULY 2007
REVISION DATE: JULY 2007
REVISION: 0.0

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
INORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
25.	Internal Lab Sample Transfer Records and Tracking Sheets (Describe or List) BARCODE			
26.	Internal Original Sample Preparation and analysis Records (Describe or List	☐	☐	
	Preparation Records	☐	☐	
	Analysis Records	☐	☐	
	Description	☐	☐	
27.	Other Records (Describe or List)			
28.	Comments:			

** See laboratory Quality Assurance Plan for limits.

Completed by: (Lab) (Signature) LAUREL STODDARD (Printed Name/Title) 2/14/12 Date

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: (Lab) (Signature) LAUREL STODDARD (Printed Name/Title) 2/14/12 Date

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND FUSS & O'NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST

ESS 1111488

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
1. SAMPLING AND FIELD MEASUREMENTS:			
Field measurement calibration records			
pH - ± 0.3 pH units	☐	☐	N/A
S.C. - ± 5% of calibration solution, within? calibration range	☐	☐	
Temperature - ± 0.5 °C	☐	☐	
D.O. - ± 5% of calibration solution	☐	☐	
Groundwater field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Soil sampling field measurements (if applicable)			
OVM - ± 2 ppm	☐	☐	
OVA - ± 2 ppm	☐	☐	
Sediment sampling field measurements (if applicable)			
Descriptive information recorded?	☐	☐	
Surface water sampling field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Low-flow sampling field measurements (if applicable)			
S.C. - ± 10%	☐	☐	
pH - ± 0.2 pH units	☐	☐	
Temperature - ± 10%	☐	☐	
Turbidity - ±5 NTU	☐	☐	
Documentation of field activities			
Site-specific information documented in field notebook?	☑	☐	
Field data sheets completed?	☑	☐	
Sample numbering and labeling			
Sample numbering conforms to sample I.D. system identified in QAPP?	☐	☑	numbering system specific to building materials was used
Chain-of-Custody records			
Chain-of-Custody forms completed?	☑	☐	field data sheet used as COC

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND MODIFIED TIER I COMPLETENESS CHECKLIST

ESS 1111488

	YES	NO
1. SAMPLING AND FIELD MEASUREMENTS:		
Field measurement calibration records	☑	☐
Groundwater field measurements (if applicable)	☐	☐ NA
Soil sampling field measurements (if applicable)	☐	☐
Sediment sampling field measurements (if applicable)	☐	☐
Surface water sampling field measurements (if applicable)	☐	☐
Low-flow sampling field measurements (if applicable)	☐	☐
Documentation of field activities	☑	☐
Sample numbering and labeling	☑	☐
Chain-of-Custody records	☑	☐
Trip blanks	☐	☐ NA
Duplicate samples	☑	☐
Equipment blanks	☐	☐ NA
Split samples (if any)	☐	☐
2. LABORATORY MEASUREMENTS:		
Trip blanks	☐	☐ NA
Instrument blanks	☑	☐
Laboratory control samples	☑	☐
Duplicates samples	☑	☐
Equipment blanks	☐	☐ NA
Matrix spike/matrix spike duplicates	☑	☐ ~~2~~ MS only
Analysis type	☑	☐
Chain-of-Custody records	☑	☐
Surrogate recoveries	☐	☐ NA
Sample Project Narratives	☑	☐
Split samples (if any)	☐	☐ NA
TOTAL:	~~11~~ TC 12	0

PERCENT COMPLETE: 100 %

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
FUSS & O'NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST
(Continued) ESS 1111488

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	↓
Duplicate samples			
Field duplicates performed, 1/20 samples?	☑	☐	
Duplicates performed on 10% of samples screened for explosives?	☐	☐	NA
Is percent difference within 30% for all field parameters?	☐	☐	
Equipment blanks			
Equipment blanks submitted, one per sampling day?	☐	☐	
Any compounds detected in equipment blank?	☐	☐	
Split samples (if any)			
Split samples collected?	☐	☐	
Is percent difference within 30% for split samples?	☐	☐	

2. LABORATORY MEASUREMENTS:

Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	↓
Instrument blanks**	☑	☐	
Laboratory control samples**	☑	☐	
Duplicates samples**	☑	☐	
Equipment blanks**	☐	☐	NA
Matrix spike/matrix spike duplicates**	☑	☐	Ms only
Analysis type	☑	☐	TC
Chain-of-Custody records	☑	☐	↓
Surrogate recoveries**	☐	☐	NA
Sample Project Narratives	☑	☐	
Split samples (if any)**	☐	☐	NA
Most recent EPA WP-PE sample results**	☐	☐	↓

Appendix H

PCB Laboratory Analytical Results

Modified Tier II
Data Validation Narrative

Project: 20081593.B10, Former Liberty Street School

ESS Laboratory Project Number:	1111487
Date Samples Received at Laboratory:	November 30, 2011
Date of Review:	February 21, 2012

Twenty-six building materials samples, including two duplicate samples, were collected and submitted to ESS Laboratory (ESS) for analysis of polychlorinated biphenyls (PCBs) by United States Environmental Protection Agency (USEPA) Method 8082.

Dedicated sampling equipment was utilized, so equipment blanks and field blanks were not collected during these sampling activities. Samples were received by the laboratory at 4.3 degrees Celsius, and the samples were analyzed within the method-specific holding times.

As documented in the case narrative included in the analytical report, elevated method reporting limits attributed to matrix interference were observed during analysis of nine samples. However, with one exception, the elevated reporting limits for these samples were still below the maximum reporting limit of 1 parts per million (ppm) requested by Fuss & O'Neill. One sample exhibited a reporting limit of 1.03 ppm.

The case narrative also documented non-conformances associated with recovery of surrogate compounds utilized during the analyses. Recovery of one or more surrogates was outside the laboratory-specified quality control range for seven samples. For four of these samples, the surrogate recovery(s) was above quality control range, suggesting potential high bias for the corresponding analytical data. However, any potential high bias did not affect the usability of the data because no PCBs were detected in any of these four samples at concentrations exceeding laboratory reporting limits. For the remaining three samples, the surrogate recovery(s) was below quality control range, suggesting potential low bias for the corresponding analytical data. However, any potential low bias was not anticipated to significantly affect the usability of the data because no PCBs were detected in any of these three samples at concentrations exceeding laboratory reporting limits. Moreover, other samples of the same homogeneous materials, which did not exhibit low surrogate recoveries, did not contain concentrations of PCBs exceeding laboratory reporting limits. No other non-conformances were noted in this analytical report.

As noted previously, two duplicate samples were collected and analyzed as part of this sample group. No PCBs were detected at concentrations exceeding laboratory reporting limits in either of the primary-duplicate sample pairs. Therefore, relative percent differences were not calculated, though the absence of detectable concentrations of PCBs in these samples suggests that data quality has not been significantly affected by sample heterogeneity.

Analytical results for the building materials samples were compared to regulatory limits established by USEPA under the Toxic Substances Control Act (TSCA). These limits included the regulated limit of 50 ppm and the potentially-regulated limit of 1 ppm. With one exception noted above, all laboratory reporting limits were low enough to allow direct comparison to these limits.

CERTIFICATE OF ANALYSIS

Pat Dowling
Fuss & O'Neill, Inc.
317 Iron Horse Way, Suite 204
Providence, RI 02908

RE: RIDEM - Former Liberty School (20081593.B10)
ESS Laboratory Work Order Number: 1111487

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

Laurel Stoddard
Laboratory Director

REVIEWED
By SMorrell at 4:55 pm, Dec 22, 2011

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

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111487

SAMPLE RECEIPT

The following samples were received on November 30, 2011 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	SampleName	Matrix	Analysis
1111487-01	1129JH-PCB-01	Solid	8082
1111487-02	1129JH-PCB-02A	Solid	8082
1111487-03	1129JH-PCB-02B	Solid	8082
1111487-04	1129JH-PCB-02C	Solid	8082
1111487-05	1129JH-PCB-03A	Solid	8082
1111487-06	1129JH-PCB-03B	Solid	8082
1111487-07	1129JH-PCB-03C	Solid	8082
1111487-08	1129JH-PCB-04	Solid	8082
1111487-09	1129JH-PCB-05	Solid	8082
1111487-10	1129JH-PCB-06	Solid	8082
1111487-11	1129JH-PCB-07A	Solid	8082
1111487-12	1129JH-PCB-07B	Solid	8082
1111487-13	1129JH-PCB-07C	Solid	8082
1111487-14	1129JH-PCB-07D	Solid	8082
1111487-15	1129JH-PCB-08A	Solid	8082
1111487-16	1129JH-PCB-08B	Solid	8082
1111487-17	1129JH-PCB-08C	Solid	8082
1111487-18	1129JH-PCB-09A	Solid	8082
1111487-19	1129JH-PCB-09B	Solid	8082
1111487-20	1129JH-PCB-09C	Solid	8082
1111487-21	1129JH-PCB-10A	Solid	8082
1111487-22	1129JH-PCB-10B	Solid	8082
1111487-23	1129JH-PCB-11A	Solid	8082
1111487-24	1129JH-PCB-11B	Solid	8082
1111487-25	1129JH-PCB-11C	Solid	8082
1111487-26	1129JH-PCB-11D	Solid	8082

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111487

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1111487-01	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-03	**Surrogate recovery(ies) below lower control limit (S-).**
	Decachlorobiphenyl [2C] (28% @ 30-150%)
1111487-05	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-05	**Surrogate recovery(ies) above upper control limit (S+).**
	Tetrachloro-m-xylene [2C] (498% @ 30-150%)
1111487-06	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-06	**Surrogate recovery(ies) above upper control limit (S+).**
	Tetrachloro-m-xylene [2C] (264% @ 30-150%)
1111487-07	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-08	**Surrogate recovery(ies) above upper control limit (S+).**
	Decachlorobiphenyl (194% @ 30-150%)
1111487-10	**Surrogate recovery(ies) below lower control limit (S-).**
	Decachlorobiphenyl (28% @ 30-150%)
1111487-11	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-11	**Surrogate recovery(ies) above upper control limit (S+).**
	Tetrachloro-m-xylene (151% @ 30-150%), Tetrachloro-m-xylene [2C] (305% @ 30-150%)
1111487-13	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-22	**Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).**
	Decachlorobiphenyl (6% @ 30-150%), Decachlorobiphenyl [2C] (7% @ 30-150%), Tetrachloro-m-xylene (6% @ 30-150%), Tetrachloro-m-xylene [2C] (5% @ 30-150%)
1111487-24	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-25	**Elevated Method Reporting Limits due to sample matrix (EL).**
1111487-26	**Elevated Method Reporting Limits due to sample matrix (EL).**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-01
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 9.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-01
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1221	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1232	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1242	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1248	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1254	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1260	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1262	ND (1.03)		10	12/12/11 16:01		CL10623
Aroclor 1268	ND (1.03)		10	12/12/11 16:01		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-02A
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-02
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1221	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1232	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1242	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1248	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1254	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1260	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1262	ND (0.0990)		1	12/09/11 17:57		CL10623
Aroclor 1268	ND (0.0990)		1	12/09/11 17:57		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*39 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*40 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*49 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-02B
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-03
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1221	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1232	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1242	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1248	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1254	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1260	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1262	ND (0.0990)		1	12/09/11 18:15		CL10623
Aroclor 1268	ND (0.0990)		1	12/09/11 18:15		CL10623

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*38 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*28 %*	*S-*	*30-150*
Surrogate: Tetrachloro-m-xylene	*31 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*32 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-02C
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-04
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1221	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1232	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1242	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1248	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1254	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1260	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1262	ND (0.0935)		1	12/09/11 18:34		CL10623
Aroclor 1268	ND (0.0935)		1	12/09/11 18:34		CL10623

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-03A
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-05
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1221	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1232	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1242	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1248	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1254	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1260	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1262	ND (0.485)		5	12/22/11 8:26		CL10623
Aroclor 1268	ND (0.485)		5	12/22/11 8:26		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*498 %*	*S+*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-03B
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-06
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1221	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1232	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1242	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1248	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1254	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1260	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1262	ND (0.500)		5	12/22/11 9:07		CL10623
Aroclor 1268	ND (0.500)		5	12/22/11 9:07		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*46 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*264 %*	*S+*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-03C
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-07
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1221	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1232	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1242	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1248	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1254	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1260	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1262	ND (1.00)		10	12/12/11 14:04		CL10623
Aroclor 1268	ND (1.00)		10	12/12/11 14:04		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*44 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-04
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-08
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1221	ND (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1232	ND (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1242	ND (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1248	ND (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1254	**1.22** (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1260	**0.198** (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1262	ND (0.0971)		1	12/09/11 18:53		CL10623
Aroclor 1268	ND (0.0971)		1	12/09/11 18:53		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*194 %*	*S+*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-05
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-09
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1221	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1232	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1242	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1248	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1254	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1260	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1262	ND (0.0962)		1	12/09/11 19:12		CL10623
Aroclor 1268	ND (0.0962)		1	12/09/11 19:12		CL10623

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*31 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*32 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*53 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*46 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-06
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-10
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1221	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1232	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1242	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1248	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1254	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1260	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1262	ND (0.0962)		1	12/09/11 19:31		CL10623
Aroclor 1268	ND (0.0962)		1	12/09/11 19:31		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*28 %*	*S-*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*31 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*36 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*38 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-07A
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 5.4
Final Volume: 20
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-11
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/16/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1221	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1232	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1242	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1248	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1254	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1260	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1262	ND (0.741)		2	12/18/11 3:07		CL11620
Aroclor 1268	ND (0.741)		2	12/18/11 3:07		CL11620

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*139 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*128 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*151 %*	*S+*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*305 %*	*S+*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-07B
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-12
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1221	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1232	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1242	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1248	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1254	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1260	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1262	ND (0.0971)		1	12/09/11 19:49		CL10623
Aroclor 1268	ND (0.0971)		1	12/09/11 19:49		CL10623

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*50 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-07C
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-13
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1221	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1232	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1242	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1248	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1254	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1260	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1262	ND (0.980)		10	12/12/11 12:49		CL10623
Aroclor 1268	ND (0.980)		10	12/12/11 12:49		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-07D
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.9
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-14
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1221	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1232	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1242	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1248	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1254	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1260	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1262	ND (0.0917)		1	12/09/11 20:08		CL10623
Aroclor 1268	ND (0.0917)		1	12/09/11 20:08		CL10623

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-08A
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-15
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1221	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1232	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1242	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1248	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1254	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1260	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1262	ND (0.0990)		1	12/09/11 20:27		CL10623
Aroclor 1268	ND (0.0990)		1	12/09/11 20:27		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*48 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*70 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-08B
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 9.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-16
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1221	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1232	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1242	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1248	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1254	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1260	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1262	ND (0.103)		1	12/09/11 20:46		CL10623
Aroclor 1268	ND (0.103)		1	12/09/11 20:46		CL10623

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*52 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-08C
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-17
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1221	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1232	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1242	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1248	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1254	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1260	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1262	ND (0.0990)		1	12/09/11 1:58		CL10720
Aroclor 1268	ND (0.0990)		1	12/09/11 1:58		CL10720

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-09A
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-18
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1221	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1232	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1242	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1248	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1254	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1260	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1262	ND (0.200)		1	12/09/11 5:06		CL10720
Aroclor 1268	ND (0.200)		1	12/09/11 5:06		CL10720

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*51 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-09B
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-19
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1221	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1232	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1242	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1248	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1254	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1260	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1262	ND (0.196)		1	12/09/11 5:25		CL10720
Aroclor 1268	ND (0.196)		1	12/09/11 5:25		CL10720

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*46 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*114 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-09C
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-20
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1221	ND (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1232	ND (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1242	**0.206** (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1248	ND (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1254	ND (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1260	ND (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1262	ND (0.200)		1	12/09/11 5:43		CL10720
Aroclor 1268	ND (0.200)		1	12/09/11 5:43		CL10720

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*39 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*45 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-10A
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-21
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1221	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1232	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1242	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1248	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1254	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1260	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1262	ND (0.0962)		1	12/09/11 2:17		CL10720
Aroclor 1268	ND (0.0962)		1	12/09/11 2:17		CL10720

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*32 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*35 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*33 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*30 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-10B
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10
Final Volume: 20
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-22
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1221	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1232	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1242	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1248	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1254	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1260	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1262	ND (0.200)		1	12/09/11 2:35		CL10720
Aroclor 1268	ND (0.200)		1	12/09/11 2:35		CL10720

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*6 %*	*SC*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*7 %*	*SC*	*30-150*
Surrogate: Tetrachloro-m-xylene	*6 %*	*SC*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*5 %*	*SC*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-11A
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-23
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1221	ND (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1232	ND (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1242	**0.304** (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1248	ND (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1254	ND (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1260	ND (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1262	ND (0.0990)		1	12/09/11 2:54		CL10720
Aroclor 1268	ND (0.0990)		1	12/09/11 2:54		CL10720

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-11B
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-24
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1221	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1232	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1242	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1248	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1254	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1260	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1262	ND (0.962)		10	12/12/11 13:07		CL10720
Aroclor 1268	ND (0.962)		10	12/12/11 13:07		CL10720

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-11C
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 11
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-25
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1221	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1232	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1242	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1248	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1254	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1260	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1262	ND (0.909)		10	12/12/11 13:26		CL10720
Aroclor 1268	ND (0.909)		10	12/12/11 13:26		CL10720

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*67 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
Client Sample ID: 1129JH-PCB-11D
Date Sampled: 11/29/11 00:00
Percent Solids: N/A
Initial Volume: 10.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1111487
ESS Laboratory Sample ID: 1111487-26
Sample Matrix: Solid
Units: mg/kg wet
Analyst: ML
Prepared: 12/7/11 17:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1221	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1232	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1242	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1248	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1254	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1260	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1262	ND (0.980)		10	12/12/11 13:45		CL10720
Aroclor 1268	ND (0.980)		10	12/12/11 13:45		CL10720

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*42 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111487

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082 Polychlorinated Biphenyls (PCB)										
Batch CL10623 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0284*		mg/kg wet	*0.02500*		*114*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0235*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
LCS										
Aroclor 1016	0.515	0.0500	mg/kg wet	0.5000		103	40-140			
Aroclor 1260	0.521	0.0500	mg/kg wet	0.5000		104	40-140			
Surrogate: Decachlorobiphenyl	*0.0271*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0293*		mg/kg wet	*0.02500*		*117*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0249*		mg/kg wet	*0.02500*		*99*	*30-150*			
LCS Dup										
Aroclor 1016	0.527	0.0500	mg/kg wet	0.5000		105	40-140	2	50	
Aroclor 1260	0.526	0.0500	mg/kg wet	0.5000		105	40-140	0.9	50	
Surrogate: Decachlorobiphenyl	*0.0276*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0296*		mg/kg wet	*0.02500*		*118*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0259*		mg/kg wet	*0.02500*		*103*	*30-150*			
Batch CL10720 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111487

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082 Polychlorinated Biphenyls (PCB)										
Batch CL10720 - 3540										
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS										
Aroclor 1016	0.502	0.0500	mg/kg wet	0.5000		100	40-140			
Aroclor 1260	0.484	0.0500	mg/kg wet	0.5000		97	40-140			
Surrogate: Decachlorobiphenyl	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0245*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0241*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
LCS Dup										
Aroclor 1016	0.489	0.0500	mg/kg wet	0.5000		98	40-140	3	50	
Aroclor 1260	0.476	0.0500	mg/kg wet	0.5000		95	40-140	2	50	
Surrogate: Decachlorobiphenyl	*0.0235*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0240*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Batch CL11620 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS										
Aroclor 1016	0.462	0.0500	mg/kg wet	0.5000		92	40-140			
Aroclor 1260	0.449	0.0500	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0219*		mg/kg wet	*0.02500*		*88*	*30-150*			
LCS Dup										
Aroclor 1016	0.462	0.0500	mg/kg wet	0.5000		92	40-140	0.06	50	
Aroclor 1260	0.430	0.0500	mg/kg wet	0.5000		86	40-140	4	50	

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111487

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082 Polychlorinated Biphenyls (PCB)										
Batch CL11620 - 3540										
Surrogate: Decachlorobiphenyl	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School
ESS Laboratory Work Order: 1111487

Notes and Definitions

U	Analyte included in the analysis, but not detected
SC	Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).
S+	Surrogate recovery(ies) above upper control limit (S+).
S-	Surrogate recovery(ies) below lower control limit (S-).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte

CERTIFICATE OF ANALYSIS

Client Name: Fuss & O'Neill, Inc.
Client Project ID: RIDEM - Former Liberty School

ESS Laboratory Work Order: 1111487

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

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

Maine Potable and Non Potable Water: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

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

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

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

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: Fuss & O'Neill, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 11110487
Date Project Due: 12/7/11
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present? * No
   Air No.:
2. Were Custody Seals Present? No
3. Were Custody Seals Intact? N/A
4. Is Radiation count < 100 CPM? Yes
5. Is a cooler present? Yes
   Cooler Temp: **4.3**
   Iced With: **Icepacks**
6. Was COC included with samples? Yes
7. Was COC signed and dated by client? Yes
8. Does the COC match the sample Yes
9. Is COC complete and correct? Yes
10. Are the samples properly preserved? Yes
11. Proper sample containers used? Yes
12. Any air bubbles in the VOA vials? N/A
13. Holding times exceeded? No
14. Sufficient sample volumes? Yes
15. Any Subcontracting needed? No
16. Are ESS labels on correct containers? Yes No
17. Were samples received intact? Yes No
    ESS Sample IDs: _____
    Sub Lab: _____
    Analysis: _____
    TAT: _____
18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
21	Yes	4 oz Soil Jar	1	NP
22	Yes	4 oz Soil Jar	1	NP
23	Yes	4 oz Soil Jar	1	NP
24	Yes	4 oz Soil Jar	1	NP
25	Yes	4 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: Fuss & O'Neill, Inc.

ESS Project ID: 11110487

26	Yes	4 oz Soil Jar	1	NP

Completed By: MK Date/Time: 11/30/11

Reviewed By: BC Date/Time: 11/30/11

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Pg 1 of 2-3
MK
11/30/11

111148)

- ❑ 146 Hartford Road, Manchester, CT 06040
- ❑ 56 Quarry Road, Trumbull, CT 06611
- ❑ 1419 Richland Street, Columbia, SC 29201
- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ☒ ~~275 Promenade Street, Suite 350~~ 317 Iron Horse way Suite 204, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD

24636

Turnaround
❑ 1 Day* ❑ 3 Days* ❑ Other _____ (days)
❑ 2 Days* ☒ Standard (____ days) *Surcharge Applies

Project Name	Project Location	Project Number	Laboratory
RIDEM- Former Liberty School	Warren, RI	20081593.B10	ESS

Report To: Pat Dowling
Invoice To:
P.O. No.:
Sampler's Signature: Jon Hand Date: 11/29/11

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other Solid

Analysis Request: PCB 8082 w/ Sorbitt 3500B/3540C

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water [ ] $Na(SO_4)_2$; Glass Soil Container (4) oz; Glass Soil Container ( ) oz; Other; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] 250 ml [ ] 250 ml [ ] Filtered; Plastic As is [ ] 500 [ ] 500 ml [ ] Unfiltered; Plastic H_2SO_4 [ ] 1000 ml; Plastic HNO_3 250 ml; Plastic NaOH 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	PCB 8082 w/ Sorbitt 3500B/3540C	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water [ ] $Na(SO_4)_2$	Glass Soil Container (4) oz	Glass Soil Container ( ) oz	Other	Water VOA Vial, [ ] As is [ ] HCl	Glass Amber ( ) ml, [ ] As is [ ] 250 ml [ ] 250 ml [ ] Filtered	Plastic As is [ ] 500 [ ] 500 ml [ ] Unfiltered	Plastic H_2SO_4 [ ] 1000 ml	Plastic HNO_3 250 ml	Plastic NaOH 250 ml	Comments
01	✓	✓	✓		1129JH-PCB-01	X	11/29/11	AM	X									X			Lower Metal roof Flashing caulk
02	✓	✓	✓		- - -02A				X									X			Ext. window caulk Red Side B
03	✓	✓	✓		- - -02B				X									X			Ext. window caulk Red Side D
04	✓	✓	✓		- - -02C				X									X			Ext. Door caulk Red Side B
05	✓	✓	✓		- - -03A				X									X			Ext. window caulk white under Red Side B
06	✓	✓	✓		- - -03B				X									X			Exto window caulk white under Red Side D
07	✓	✓	✓		- - -03C				X									X			Ext. door caulk white under Red Side B
08	✓	✓	✓		- - -04				X									X			Front Door window Transom glazing compound
09	✓	✓	✓		- - -05				X									X			Cuppola Base caulk Black
10	✓	✓	✓		- - -06				X									X			Cuppola Residual Louver Caulk white

Transfer Number	Relinquished By	Accepted By	Date	Time
1	Jon Hand	Prov Fedex	11/30/11	AM
2	FED EX	[illegible]	11/30/11	1530
3	[illegible]	[illegible]	11/30/11	1500
4				

Reporting and Detection Limit Requirements: 1 ppm

Additional Comments:
Cooler temp received @ 4.3°

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Pg 2 of 3

11114.87

- ❑ 146 Hartford Road, Manchester, CT 06040
- ❑ 56 Quarry Road, Trumbull, CT 06611
- ❑ 1419 Richland Street, Columbia, SC 29201
- ❑ 78 Interstate Drive, West Springfield, MA 01089

317 Iron Horse way Suite 204

- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ☒ ~~275 Promenade Street, Suite 350, Providence, RI 02908~~
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD

24634

Turnaround

❑ 1 Day* ❑ 3 Days* ❑ Other _____ (days)
❑ 2 Days* ☒ Standard (____ days) *Surcharge Applies

Project Name	Project Location	Project Number	Laboratory
RIDEM - Former Liberty School	Warren, RI	20081593.B10	ESS

Report To: Pat Dowling

Invoice To:

P.O. No.:

Sampler's Signature: Jon Hand Date: 11/29/11

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other solid

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	PCB 8082 w/ Soxlet 3500B/3540C	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water	Glass Soil Container ( ) oz	Glass Soil Container (4) oz	Other:	Water VOA Vial, [ ] As is	Glass Amber [ ] ml	Plastic As is [ ] HCl	Plastic [ ] H_2SO_4	Plastic [ ] HNO_3	Plastic NaOH, 250 ml	Plastic [ ] $Na(SO_3)_2$	Plastic [ ] As is [ ] 250 ml	Plastic [ ] 250 ml	Plastic [ ] 250 ml	Plastic [ ] 500 ml	Plastic [ ] 1000 ml	Plastic [ ] 500 ml	Plastic [ ] Filtered	Plastic [ ] Unfiltered	Comments
11	✓	✓	✓		1129JH-PCB-07A	X	11/29/11	AM	X						X															Skylight Glazing Compound
12	✓	✓	✓		- 07B				X						X															
13	✓	✓	✓		- 07C				X						X															
14	✓	✓	✓		- 07D				X						X															Duplicate of 07C
15	✓	✓	✓		- 08A				X						X															Chimney Flashing Sealant Brown
16	✓	✓	✓		- 08B				X						X															
17	✓	✓	✓		- 08C				X						X															
18	✓	✓	✓		- 09A				X						X															Black Roof Paper
19	✓	✓	✓		- 09B				X						X															
20	✓	✓	✓		- 09C				X						X															

Transfer Number	Relinquished By	Accepted By	Date	Time
1	JH	Rory Friday	11/30/11	AM
2	FED Fridy	[signature]	11/30/11	1500
3	[signature]	Ben Lupton	11/30/11	1500
4				

Reporting and Detection Limit Requirements: 1 ppm

Additional Comments: Cooler temp received @ 4.3°

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3
Pg 2 of 23
MK
11/30/11

111148)

- ❑ 146 Hartford Road, Manchester, CT 06040
- ❑ 56 Quarry Road, Trumbull, CT 06611
- ❑ 1419 Richland Street, Columbia, SC 29201
- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 317 Iron Horse Way Suite 204
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ☒ ~~275 Promenade Street, Suite 350,~~ Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD

24635

Turnaround

❑ 1 Day* ❑ 3 Days* ❑ Other _____ (days)
❑ 2 Days* ☒ Standard (____ days) *Surcharge Applies

Project Name	Project Location	Project Number	Laboratory
RIDEM - Former Liberty School	Warren, RI	20081593.010	ESS

Report To: Pat Dowling

Invoice To:

P.O. No.:

Sampler's Signature: Jon Hand Date: 11/29/11

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air

X=Other Solid

Analysis Request: PCB 8082 w/Sackhlet 3500B/3540C

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container (4) oz; Glass Soil Container ( ) oz; Other: Water VOA Vial, [ ] As [ ] HCl; Glass Amber ( ) ml; As [ ] As [ ] H_2SO_4; Plastic [ ] 250 ml; H_2SO_4 [ ] 500 [ ] 1000 ml; Plastic [ ] 250 ml; HNO_3 250 ml [ ] 500 ml; Plastic [ ] 250 ml; $NaOH$ 250 ml [ ] Filtered [ ] Unfiltered

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	PCB 8082 w/Sackhlet 3500B/3540C	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water	Glass Soil Container (4) oz	Glass Soil Container ( ) oz	Other:	Comments
21 11	✓	✓	✓		1129JH-PCB-10A	X	11/29/11	AM	X			X			Chimney Flue Caulk
22 12	✓	✓	✓		- - 10B	X	↓	↓	X			X			↓
23 13	✓	✓	✓		- - 11A	X			X			X			window Glazing Compound 1st Floor Side A window 2
24 14	✓	✓	✓		- - 11B	X			X			X			window Glazing Compound 1st Floor Side B Kitchen Window 2
25 15	✓	✓	✓		- - 11C	X			X			X			window Glazing Compound 2nd Floor Side C window 6
26 16	✓	✓	✓		- - 11D	X			X			X			-11C Duplicate

Transfer Number	Relinquished By	Accepted By	Date	Time
1	JH	Poor Fridge	11/30/11	AM
2	[illegible]	[illegible]	11/30/11	1500
3	[illegible]	Ben [illegible]	11/30/11	1500
4				

Reporting and Detection Limit Requirements: 1 ppm

Additional Comments: Cooler temp 4.3 received

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1111487

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INITIAL DATE: JULY 2007
REVISION DATE: JULY 2007
REVISION: 0.0

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST ORGANIC COMPOUNDS

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
1.	SDG Project Narratives	X	☐	
2.	Traffic Report	X	☐	BARCODE
3.	Volatiles Data			
a.	Sample Data			
	Target Compound List (TCL) Results	☐	☐	NA
	Reconstructed total ion chromatograms (RIC) for each sample	☐	☐	
	For each sample:			
	Raw spectra and background-subtracted mass spectra of target compounds identified	☐	☐	
	Mass spectra of all reported TICs with three best library matches	☐	☐	
	Percent solids calculations	☐	☐	
b.	Standards Data (all instruments)			
	Initial Calibration Data	☐	☐	
	RICs and Quan Reports for all Standards	☐	☐	
	Continuing Calibration	☐	☐	
	RICs and Quan Reports for all Standards	☐	☐	
	Internal Standard Area Summary	☐	☐	
c.	Raw QC Data			
	Blank Data	☐	☐	
	Matrix Spike Data	☐	☐	
	Matrix Spike Duplicate Data	☐	☐	NA
4.	Semivolatiles Data (PCB'S) (TPH)			
a.	QC Summary			
	Surrogate Percent Recovery Summary	X	☐	
	MS/MSD Summary	☐	X	
	Method Blank Summary	X	☐	
	Tuning and Mass Calibration	☐	X	N/A

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INITIAL DATE: JULY 2007
REVISION DATE: JULY 2007
REVISION: 0.0

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND
LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST
ORGANIC COMPOUNDS
(Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

	YES	NO	COMMENTS
b. Sample Data			
TCL Results	☐	☐	
Tentatively Identified Compounds	☐	☒	NA
Reconstructed total ion chromatograms (RIC) for each Sample	☐	☒	NA
For each sample:			
Raw spectra and background-subtracted mass spectra of TCL compounds	☐	☒	NA
Mass spectra of TICs with 3 best library matches	☐	☒	NA
GPC chromatograms (if GPC performed)	☐	☒	NA
c. Standards Data (all instruments)			
Initial Calibration Data	☒	☐	
RICs and Quan Reports for all Standards	☐	☒	NA
Continuing Calibration	☒	☐	
RICs and Quan Reports for all Standards	☐	☒	NA
Internal Standard Areas Summary	☐	☒	NA
Internal Standard Areas Summary	☐	☒	NA
d. Raw QC Data			
Decafluorotripbenylphosphine (DFTPP)	☐	☒	NA
Blank Data	☒	☐	
Matrix Spike Data	☒	☒	
Matrix Spike Duplicate Data	☐	☒	
5. Miscellaneous Data			
Original preparation and analysis forms or copies of preparation and analysis log book pages	☒	☐	
Internal sample & sample extract transfer chain-of custody records	☒	☐	
Screening Records	☐	☒	NA
All instrument output, including strip charts from screening activities (describe or list)	☒	☐	

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11 11487

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INITIAL DATE: JULY 2007
REVISION DATE: JULY 2007
REVISION: 0.0

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN CONNECTICUT, MASSACHUSETTS AND RHODE ISLAND LABORATORY MODIFIED TIER II DATA VALIDATION CHECKLIST ORGANIC COMPOUNDS (Continued)

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMTS?**

		YES	NO	COMMENTS
6.	Chain-of-Custody Records	☒	☐	
	Sample Log-in Sheet (Lab & DC1)	☒	☐	
	Miscellaneous Shipping/Receiving Records (describe or list) COOLER RECEIPT FORM	☒	☐	
7.	Internal Lab Sample Transfer Records and Tracking Sheets (describe or list) BARCODE	☒	☐	
8.	Other Records (describe or list)	☐	☒	

9. Comments:

** See laboratory Quality Assurance Plan for limits.

Completed by: (Lab) (Signature) LAUREL STODDARD (Printed Name/Title) LAB DIRECTOR Date 2/14/12

I certify that the above information is true and accurate. I further certify that all laboratory results associated with the above analyses will be made available for review for seven (7) years following certification of this document.

Certified by: (Lab) (Signature) LAUREL STODDARD (Printed Name/Title) LAB DIRECTOR Date 2/14/12

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST

ESS 1/1/1487

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
1. SAMPLING AND FIELD MEASUREMENTS:			
Field measurement calibration records			
pH - ± 0.3 pH units	☐	☐	NA
S.C. - ± 5% of calibration solution, within? calibration range	☐	☐	
Temperature - ± 0.5 °C	☐	☐	
D.O. - ± 5% of calibration solution	☐	☐	
Groundwater field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Soil sampling field measurements (if applicable)			
OVM - ± 2 ppm	☐	☐	
OVA - ± 2 ppm	☐	☐	
Sediment sampling field measurements (if applicable)			
Descriptive information recorded?	☐	☐	
Surface water sampling field measurements (if applicable)			
Water depth measured to within 0.01 ft.?	☐	☐	
Low-flow sampling field measurements (if applicable)			
S.C. - ± 10%	☐	☐	
pH - ± 0.2 pH units	☐	☐	
Temperature - ± 10%	☐	☐	
Turbidity - ±5 NTU	☐	☐	
Documentation of field activities			
Site-specific information documented in field notebook?	☑	☐	
Field data sheets completed?	☑	☐	
Sample numbering and labeling			
Sample numbering conforms to sample I.D. system identified in QAPP?	☐	☑	numbering system specific to building materials was used
Chain-of-Custody records			
Chain-of-Custody forms completed?	☑	☐	

GENERIC QUALITY ASSURANCE PROJECT PLAN FOR PROJECTS IN RHODE ISLAND MODIFIED TIER I COMPLETENESS CHECKLIST

ESS 1/1/487

	YES	NO
1. SAMPLING AND FIELD MEASUREMENTS:		
Field measurement calibration records	☐	☐ NA
Groundwater field measurements (if applicable)	☐	☐
Soil sampling field measurements (if applicable)	☐	☐
Sediment sampling field measurements (if applicable)	☐	☐
Surface water sampling field measurements (if applicable)	☐	☐
Low-flow sampling field measurements (if applicable)	☐	☐
Documentation of field activities	☑	☐
Sample numbering and labeling	☑	☐
Chain-of-Custody records	☑	☐
Trip blanks	☐	☐ NA
Duplicate samples	☑	☐ TC
Equipment blanks	☐	☐ NA
Split samples (if any)	☐	☐
2. LABORATORY MEASUREMENTS:		
Trip blanks	☐	☐ NA
Instrument blanks	☑	☐
Laboratory control samples	☑	☐ ~~NA~~ TC
Duplicates samples	☑	☐
Equipment blanks	☐	☐ NA
Matrix spike/matrix spike duplicates	☐	☐
Analysis type	☑	☐
Chain-of-Custody records	☑	☐
Surrogate recoveries	☑	☐
Sample Project Narratives	☑	☐
Split samples (if any)	☐	☐ NA
TOTAL:	TC ~~10~~ 11	0

PERCENT COMPLETE: 100 %

GENERIC QUALITY ASSURANCE PROJECT PLAN
FOR PROJECTS IN RHODE ISLAND
FUSS & O NEILL MODIFIED TIER II DATA VALIDATION CHECKLIST
(Continued) ESS 11/1/487

PERFORMED AND, WHERE APPLICABLE, WITHIN ACCEPTABLE LIMITS?

	YES	NO	COMMENTS
Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	↓
Duplicate samples			
Field duplicates performed, 1/20 samples?	☑	☐	
Duplicates performed on 10% of samples screened for explosives?	☐	☐	NA
Is percent difference within 30% for all field parameters?	☐	☐	
Equipment blanks			
Equipment blanks submitted, one per sampling day?	☐	☐	
Any compounds detected in equipment blank?	☐	☐	
Split samples (if any)			
Split samples collected?	☐	☐	
Is percent difference within 30% for split samples?	☐	☐	

2. LABORATORY MEASUREMENTS:

Trip blanks			
Trip blanks submitted, one per day?	☐	☐	NA
Any compounds detected in trip blanks?	☐	☐	↓
Instrument blanks**	☑	☐	
Laboratory control samples**	☑	☐	
Duplicates samples**	☑	☐	
Equipment blanks**	☐	☐	NA
Matrix spike/matrix spike duplicates**	☐	☐	↓
Analysis type	☑	☐	
Chain-of-Custody records	☑	☐	
Surrogate recoveries**	☐	☑	Some surrogate recoveries ~~out of range~~, see narrative
Sample Project Narratives	☑	☐	
Split samples (if any)**	☐	☐	NA
Most recent EPA WP-PE sample results**	☐	☐	↓

Appendix I

Hazardous Materials Abatement Cost Estimate

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Appendix I
Hazardous Materials Abatement Cost Estimate

A hazardous materials abatement cost estimate is provided below. Unit costs are based on current industry rates and are inclusive of contractor costs. They do not include costs for design, monitoring, sampling, and other consultant fees.

TABLE 9
Estimated Costs for Hazardous Materials Abatement

MATERIAL	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
Asbestos Containing Materials			
Black Trim Caulk on Copula	40 LF	$15/LF	$600
Residual White Louver Caulk on Copula	80 LF	$15/LF	$1,200
Skylight Glazing Compound	1 EA at 50 SF	$500/each	$500
Tan and Silver Chimney Flashing Sealant	50 LF	$7/LF	$350
Flashing Sealant Associated with Low Metal Roofs	24 LF	$7/LF	$168
Window Header Overhang Caulk	200 LF	$15/LF	$3,000
White Window and Door Caulk Beneath Red Caulk	All Windows and Doors Approximately 95 EA	$200/each	$19,000
Grey and White Window Glazing Compound	All Windows Approximately 86 EA	$500/each	$43,000
Green with Dark Green and Pink Streaks 9x9 Floor Tile and Associated Mastic	2,250 SF	$5/SF	$11,250
Green with Green and White Streaks 9x9 Floor Tile and Associated Mastic	900 SF	$5/SF	$4,500
Black Mastic Associated with Grey Mottled 12x12 Floor Tile	2,100 SF	$5/SF	$10,500
AirCell Pipe TSI and Associated Mudded Fittings	400 LF	$25/LF	$10,000
Boiler Breeching TSI	10 LF at 10" Diameter	$75/LF	$750
Boiler Jacket TSI	85 SF	$35/SF	$2,975
Boiler Debris (Visible AirCell in Boiler)	35 SF	$20/SF	$700
Black Sink Undercoat	1 EA	$150/each	$150
Transite Panels	50 SF	$15/SF	$750
Lead Paint Materials			
OSHA lead compliance during renovation and demolition work		Allowance	$10,000
Potential disposal of non-hazardous Lead Waste from demolition and disposal of removed components and surfaces (based on TCLP results as non-hazardous)		Allowance	$15,000
		SUBTOTAL	**$134,393**
		(25%) CONTINGENCY	**$33,598**
		TOTAL	**$168,000**