



**DOVER SCHOOL
DISTRICT**

JOINT BUILDING COMMITTEE – GARRISON SCHOOL MEETING NOTICE

Meeting Type:	Regular Meeting
Meeting Location:	Supt Conference Room, McConnell Center
Meeting Date:	Tuesday, October 10, 2017
Meeting Time:	4:30 P.M.

1. Call to Order and Roll Call
2. Citizens' Forum
3. Approval of Agenda
4. Approval of Minutes of August 29, 2017 meeting
5. Harriman/Harvey Update
6. Testing Update
7. DRED Update
8. Community Forum Plans
9. Manifest Approval
10. Review Action Items and Build Agenda for next meeting
11. Matters of Interest
12. Adjournment



**DOVER SCHOOL
DISTRICT**

JOINT BUILDING COMMITTEE – GARRISON SCHOOL MINUTES

Meeting Type:	Regular Meeting
Meeting Location:	Supt Conference Rm, McConnell Center
Meeting Date:	Tuesday, August 29, 2017
Meeting Time:	4:30 p.m.

- I. CALL TO ORDER AND ROLL CALL:** A meeting of the Garrison School Joint Building Committee was called to order on Tuesday, August 29, 2017 at 4:30 p.m. in the Superintendent's Conference Room of the McConnell Center by JBC Chair Betsey Andrews Parker. In addition to Ms. Andrews Parker, present JBC members included Dennis Ciotti, Keith Holt, and Jan Nedelka, Steve Haight arrived at 4:45 p.m. and Karen Weston was excused. Also in attendance were Superintendent Bill Harbron, Harriman representative Dan Bisson, Harvey Construction representative Carl DuBois, Facilities Manager Jeff White, Business Administrator Libby Simmons and GES Principal Beth Dunton.
- II. CITIZENS' FORUM:** No one addressed the JBC.
- III. APPROVAL OF AGENDA:** Jan Nedelka moved, Dennis Ciotti seconded to approve the agenda as presented. An oral **VOTE PASSED 4/0.**
- IV. APPROVAL OF MEETING MINUTES FOR AUGUST 15, 2017:**

Jan Nedelka moved, Keith Holt seconded to approve meeting minutes of August 15, 2017 as presented. An oral **VOTE PASSED 4/0.**
- V. UPDATE ON CIP FROM 8/21 SCHOOL BOARD SPECIAL SESSION:** Dr. Harbron summarized the Special Session and stated the School Board approved \$1.2 to be added to the CIP. He continued to say that the conversation was well thought out and all viewpoints were reviewed. Mr. Ciotti asked if the \$5.5 million was requested for future years, to which Mr. Holt stated that they did not vote to do that. Ms. Simmons had informed the Board at the Special Session that it was an option, but the Board chose not to add it for future years. Mr. Ciotti stated that he couldn't support the additional money at this time, but could possibly support it in future years. He added that he believes that the requested additional \$1.2 million for the project will be approved by the City Council.

Mr. Ciotti added that he believes the City Council may have ability to add items to the CIP even though the deadline has passed. Dr. Harbron will request in writing to Councilor Ciotti, with the entire Council copied, that the City Council keep the \$5.5 million in CIP as a placeholder for the three years out. He will add that this wasn't originally requested due to the deadline. It was also recommended that a 5% increase be included for each year in the future so that the amount is accurate when the time comes for the project to occur. Dr. Harbron will inform the Board of this action through his weekly update and a formal action will occur at the next Board meeting.
- VI. TESTING UPDATE:** The hygienist testing contract was awarded to Ray Desmarais and will occur on Friday when school is not in session. Mr. DuBois commented that there was a wide range in bids and the cost will be approximately \$2,000.00. There is no danger to students and it is mostly exterior work needed. Mr. White hasn't heard from Carter regarding sprinkler testing but it should be 2-3 weeks.
- VII. DRED UPDATE:** There is no update on DRED situation.



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- VIII. COMMUNITY FORUM PLANS:** Principal Dunton will provide an overview to families at the September 28 Open House (6:30 pm) with a more in-depth meeting at the PTA meeting to be held on October 18 at Garrison School. This will be a posted public GES JBC meeting
- IX. MANIFEST APPROVAL:** There were no manifests to approve.
- X. REVIEW ACTION ITEMS AND BUILD NEXT AGENDA:** Items on the next agenda will include community forum plans, Mr. Bisson will provide a draft agenda for the October 18 PTA-JBC meeting, DRED update, testing update. It was requested that there is a technology update on the September 26 meeting. Mr. Myers will be invited. There is a strong possibility that the September 12 meeting is canceled. Committee members will be notified by September 7th.
- XI. MATTERS OF INTEREST:** There were no matters of interest.
- XII. ADJOURNMENT:** Jan Nedelka moved, Dennis Ciotti seconded to adjourn the meeting at 5:00 p.m. An oral **VOTE PASSED 5/0**.



**LIMITED ASBESTOS AND PCB SAMPLING
GARRISON ELEMENTARY SCHOOL
DOVER, NH**

320 Hemlock Lane, Barrington, NH 03825 ph 603-664-5500 fax 603-664-5600 www.denvironmental.com

October 4, 2017

Dover School District SAU #11
61 Locust Street
Dover, NH 03820

Re: Limited Asbestos and PCB Sampling – Garison Elementary School – Dover, NH

On September 1, 2017, Desmarais Environmental, Inc. conducted specific RFP requested testing for asbestos and PCB window caulking in three wings and stage area of Garison Elementary School in Dover, New Hampshire.

The purpose of this survey was to determine the presence of hazardous materials and their conditions in order to ensure compliance with the regulatory requirements to renovate the building. The scope of work included specific potential asbestos-containing materials and PCB window caulking

Reasonable efforts have been made by Desmarais Environmental, Inc. personnel to locate and sample suspect hazardous materials. However, for any facility, the existence of unique or concealed material and debris is a possibility. In addition, sampling and laboratory analysis constraints typically hinder the investigation. Desmarais Environmental, Inc. does not warrant, guarantee or profess to have the ability to have located or identified all hazardous materials within the area surveyed.

BACKGROUND INFORMATION

ASBESTOS

Asbestos is a term to describe six naturally occurring mineral fibers that are commonly found in a wide array of building construction materials due to the fiber strength and heat resistant properties. When asbestos containing materials become damaged or are disturbed during repair, remodeling or demolition activities; microscopic fibers become airborne. Asbestos fibers are so tiny and light that they can remain airborne for many hours. When inhaled, they can cause health problems. The three (3) most common types of asbestos are chrysotile, amosite and crocidolite. The lesser common types are tremolite, anthophyllite, and actinolite. Nearly 95% of all asbestos in the United States is chrysotile.

The Environmental Protection Agency classifies asbestos-containing building materials (ACBM) into three (3) general categories.

1. Surfacing Materials
 - a. Any material that has been sprayed-on or troweled-on, or otherwise applied to surfaces. Textured ceilings, joint compound, and fireproofing are some examples of surfacing materials.
2. Thermal System Insulation (TSI)
 - a. Any material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior mechanical components designed to prevent heat loss or water condensation.
3. Miscellaneous Materials

- a. Any material that is not surfacing or thermal system insulation. Floor tiles, ceiling tiles, and transite board are some examples of miscellaneous materials.

The condition of asbestos containing materials is classified according to its friability, the current state of condition and its potential for disturbance. Friability is determined by the ability, when dry, to be crumbled, pulverized, or reduced to powder by hand pressure. The current state of condition is broken up into three categories

1. Significantly Damaged
 - a. Over 10% evenly distributed damage or over 25% of the localized damage.
2. Damaged
 - a. Less than 10% evenly distributed damage or less than 25% of the localized damage.
3. Good
 - a. No visible damage or very little damage.

The potential for disturbance is categorized by answering three (3) questions with high, moderate or low. The three questions are as follows,

1. The potential for contact with the material?
2. The influence of vibration on the material?
3. The potential for air erosion on the material?

Any question with a high answer shows potential for significant damage, any question answered with moderate shows potential for damage and all questions answered with low shows low potential.

The Environmental Protection Agency established the National Emission Standards for Hazardous Air Pollutants, 40 CFR 61, regulation to require the owner of a demolition or renovation activity and prior to commencement of the demolition or renovation, to thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos. EPA defines a facility as any institutional, commercial, public, industrial, or residential structure, installation or building. It includes any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excludes residential buildings having four or fewer dwelling units.

The State of New Hampshire established Env-A 1800 (Asbestos Management and Control) to better deal with asbestos. Under Env-A 1804.01, the State of New Hampshire requires that the owner/operator of a facility has an asbestos survey completed on the affected portion(s) prior to undertaking any demolition or renovation activity. According to Env-A 1802.31, the State of New Hampshire defines a facility as any institutional, commercial, public, or private building or structure, work place, ship, installation, active waste disposal site, inactive waste disposal site operated after July 9, 1981, or rental dwelling.

Asbestos samples of suspect materials were collected as described below according to type and quantity of material per homogeneous area. A homogeneous area is defined as a suspect material of similar age, appearance, function and texture.

Material	Samples
Miscellaneous materials	One sample per homogeneous area
Surfacing materials	Three samples per homogeneous area
Thermal system insulation	Three samples per homogeneous area

POLYCHLORINATED BIPHENYLS (PCBs)

Polychlorinated Biphenyls (PCBs) were used in the construction, renovation and repair of many buildings, including schools, from the 1950's through the late 1970's. PCBs may be present in products and materials produced before the 1979 PCB ban. PCB's were used in industrial and commercial applications including electrical, heat transfer, and hydraulic equipment. They were also used as plasticizers in paints, plastics and rubber compounds; and in pigments in dyes and some papers. PCBs commonly found in building construction include exterior window and door caulking and expansion joints. Most commercial PCB mixtures are known in the United States by their industrial trade names; the most common name is Aroclor. The primary focus in identifying polychlorinated biphenyls (PCBs) for this survey was in caulk within the buildings in preparation for its renovation or demolition.

LABORATORY ANALYTICAL METHODS

ASBESTOS

All bulk samples collected were forwarded to Optimum Analytical, Inc. located in Salem, NH. Optimum is a NIST/NVLAP and AIHA-accredited laboratory.

Analyses were performed using standard optical microscopy and petrographic techniques. A representative portion of the bulk sample was placed on a glass slide, immersed and macerated in the appropriate index oils. This was then examined under plane and fully polarized light on the petrographic microscope. The following features were used to identify unknown particles and fibers: Morphology, index of refraction, birefringence, size, color, etc.

Analytical results (compositions and percentages) are listed on the bulk report form attached. For the purpose of these analyses, asbestos determination and identification is based on definitions as set forth in the US. EPA Environmental Monitoring Systems Laboratory TEST METHOD "Interim Method for the Determination of Asbestos in Bulk Insulation Samples," EPA-600/M4-82-020.

Polarized-light microscopy is not consistently reliable in detecting asbestos in floor tiles. Confirmation by Transmission Electron Microscopy is recommended for negative floor tile samples.

POLYCHLORINATED BIPHENYLS (PCBs)

All bulk samples collected were forwarded Phoenix Environmental Laboratories located in Manchester, Connecticut.

Analyses were performed using EPA Method 8082 PCBs by gas chromatography. This method is used to determine the concentrations of PCBs as Aroclors or as individual PCB congeners in extracts from solids. A measured weight of the sample is extracted and analyzed using electron capture detectors (ECD) or electrolytic conductivity detectors (ELCD).

RESULTS

TABLE OF ASBESTOS BULK SAMPLING RESULTS

Sample #	Description	Location	Results
1	Plaster on CMU	Room #23	None
2	Plaster on CMU	Hall Near 22	None
3	Plaster on CMU	Hall Near 29	None
4	Plaster on CMU	Hall Near 11	None
5	Plaster on CMU	Hall Near 13	None
6	Plaster on CMU	Hall Near 18	None
7	Plaster on CMU	Hall Near	None
8	Tile Adhesive	Boy's Near 21	None
9	Grout	Boy's Near 21	None
10	Blackboard Adhesive	Room #29	None
11	Blackboard Adhesive	Room #29	None
12	Blackboard Adhesive	Room #29	None
13	Ceiling Tile	Hall near 13	None
14	Cove Base	Hall near 22	None
15	Adhesive	Hall near 22	None
16	Cove Base	Hall near 29	None
17	Adhesive	Hall near 29	None
18	Cove Base	Hall near 12	None
19	Adhesive	Hall near 12	None
20	Tile Adhesive	Boy's near East Wing	None
21	Grout	Boy's near East Wing	None

None = No Asbestos Structures Detected

Notes:

1. 9"X 9" floor tiles/adhesive were observed on the stage floor that were previously identified as asbestos-containing in the original Management Plan.
2. Other suspect asbestos-containing materials were observed in the school in addition to those sampled in this document and assume those materials are known and addressed in the school Management Plan.
3. No waterproofing on CMU wall was observed in the one brick penetration made from outside under a window.
4. Only one blackboard was found removed in order to view and sample. Insure consistency of the material and any variations should be tested.



POLYCHLORINATED BIPHENYLS (PCBs) RESULTS

Sample #	Type	Results PPM
PCB1	Interior Window Caulk Room 23	0.86
PCB2	Exterior Window Caulk Dark Grey	ND
PCB3	Exterior Window Caulk Light Grey	ND
PCB4	Interior Window Caulk Room 33	2
PCB5	Exterior Window Caulk Room 33	ND

No regulated PCB caulk above 50 PPM was identified in these samples.

Laboratory report is included in Appendix 2.

RECOMMENDATIONS

Based on the findings of the asbestos and PCB sampling no additional asbestos or PCB regulated materials were identified other those previously know or assumed.

The asbestos laboratory sheets are presented in Appendix 1, PCB lab sheets in Appendix 2.

If you have any questions regarding this report or require additional services, please do not hesitate to contact our office at (603) 664-5500.

Respectively submitted,
Desmarais Environmental, Inc.



Raymond G. Desmarais, CIH, CSP
New Hampshire Licensed Inspector, Management Planner & Designer
New Hampshire License #024-IMD

**Appendix 1
Laboratory Reports
Asbestos**



Ray Desmarais
Desmarais Environmental, Inc.
320 Hemlock Lane
Barrington NH 03825

Project Reference:
Laboratory Batch #: 1722325
Date Samples Received: 09/01/2017
Date Samples Analyzed: 09/07/2017
Date of Final Report: 09/08/2017

SAMPLE IDENTIFICATION:

Twenty One (21) samples from Garrison Elementary School project were submitted by Ray Desmarais on 09/01/2017

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

ANALYTICAL METHOD:

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-600/M4-82-020, EPA-600/R-93-116). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter ($<0.25\mu\text{m}$) may not be detected by the PLM method. Floor tile and other resinously bound material may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additional analytical methods may be required. Optimum recommends using Transmission Electron Microscopy (TEM) for a more definitive analysis.

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

Use of the NVLAP and AIHA Logo in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

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

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

Jamie L. Noel
Laboratory Director

Kristina Scaviola
Laboratory Supervisor



OPTIMUM

Analytical and Consulting, LLC

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

CLIENT: Desmarais Environmental, Inc.
ADDRESS: 320 Hemlock Lane
CITY / STATE / ZIP: Barrington NH 03825
CONTACT: Ray Desmarais
DESCRIPTION: PLM Analysis
LOCATION: Garrison Elementary School

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-600/M4-82-020, EPA-600/ R-93-116) NVLAP Lab Code: 101433-0

ORDER #: 1722325
PROJECT #:
DATE COLLECTED: 09/01/2017
COLLECTED BY: Ray Desmarais
DATE RECEIVED: 09/01/2017
ANALYSIS DATE: 09/07/2017
REPORT DATE: 09/08/2017
ANALYST: Lauren Oakes

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
1722325-001 1	Room 23 Paint, Off White Note: Insufficient Plaster for Analysis	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-002 2	Hall Near Room 22 Paint, Pink/Blue Note: Insufficient Plaster for Analysis	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-003 3	Hall Near Room 29 Paint, Pink/Off White Note: Insufficient Plaster for Analysis	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-004 4	Hall Near Room 11 Paint, Blue/Off White Note: Insufficient Plaster for Analysis	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-005 5	Hall Near Room 13 Paint, Off White Note: Insufficient Plaster for Analysis	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-006 6	Hall Near Room 18 Paint, Off White/Green Note: Insufficient Plaster for Analysis	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-007 7	Paint, Off White/Blue Note: Insufficient Plaster for Analysis	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-008 8	Boy's Room Near Room 21 Tile Adhesive, Clear	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%



OPTIMUM

Analytical and Consulting, LLC

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

CLIENT: Desmarais Environmental, Inc.
ADDRESS: 320 Hemlock Lane
CITY / STATE / ZIP: Barrington NH 03825
CONTACT: Ray Desmarais
DESCRIPTION: PLM Analysis
LOCATION: Garrison Elementary School

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-600/M4-82-020, EPA-600/ R-93-116) NVLAP Lab Code: 101433-0

ORDER #: 1722325
PROJECT #:
DATE COLLECTED: 09/01/2017
COLLECTED BY: Ray Desmarais
DATE RECEIVED: 09/01/2017
ANALYSIS DATE: 09/07/2017
REPORT DATE: 09/08/2017
ANALYST: Lauren Oakes

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
1722325-009 9	Boy's Room Near Room 21 Grout, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-010 10	Room 29 Blackboard Adhesive, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 2% Wollastonite 2% Non-Fibrous Material 96%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-011 11	Room 29 Blackboard Adhesive, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 2% Wollastonite 2% Non-Fibrous Material 96%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-012 12	Room 29 Blackboard Adhesive, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 2% Wollastonite 2% Non-Fibrous Material 96%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-013 13	Hall Near Room 18 Ceiling Tile, Pale Pink	LAYER 1 100%	None Detected	Cellulose Fiber 30% Fibrous Glass 55% Mineral Wool 5% Non-Fibrous Material 10%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-014 14	Hall Near Room 22 Cove Base, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 1% Non-Fibrous Material 99%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-015 15	Hall Near Room 22 Adhesive, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%



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CLIENT: Desmarais Environmental, Inc.
ADDRESS: 320 Hemlock Lane
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CONTACT: Ray Desmarais
DESCRIPTION: PLM Analysis
LOCATION: Garrison Elementary School

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-600/M4-82-020, EPA-600/ R-93-116) NVLAP Lab Code: 101433-0

ORDER #: 1722325
PROJECT #:
DATE COLLECTED: 09/01/2017
COLLECTED BY: Ray Desmarais
DATE RECEIVED: 09/01/2017
ANALYSIS DATE: 09/07/2017
REPORT DATE: 09/08/2017
ANALYST: Lauren Oakes

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
1722325-016 16	Hall Near Room 29 Cove Base, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 1% Non-Fibrous Material 99%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-017 17	Hall Near Room 29 Adhesive, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-018 18	Hall Near Room 12 Cove Base, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 1% Non-Fibrous Material 99%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-019 19	Hall Near Room 12 Adhesive, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-020 20	Boy's Room Near Custodial K Wing Tile Adhesive, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 85% Non-Fibrous Material 15%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%
1722325-021 21	Boy's Room Near Custodial K Wing Grout, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 2% Non-Fibrous Material 98%
Total % Asbestos:			No Asbestos Detected	Total % Non-Asbestos: 100.0%

**Analyst
Signatory:**
Lauren Oakes

NVLAP
Lab Code: 101433-0



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CONTACT: Ray Desmarais
DESCRIPTION: PLM Analysis
LOCATION: Garrison Elementary School

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-600/M4-82-020, EPA-600/ R-93-116) NV/LAP Lab Code: 101433-0

ORDER #: 1722325
PROJECT #:
DATE COLLECTED: 09/01/2017
COLLECTED BY: Ray Desmarais
DATE RECEIVED: 09/01/2017
ANALYSIS DATE: 09/07/2017
REPORT DATE: 09/08/2017
ANALYST: Lauren Oakes

1722325

Sample Log and Chain of Custody Record

Project: Garrison Elementary School

Normal Turnaround Please

Sample #	Description	Location	Analysis
1	Plaster on CMU	Room 23	PLM ASB
2		Hall near 22	PLM ASB
3		29	PLM ASB
4		11	PLM ASB
5		13	PLM ASB
6		18	PLM ASB
7			PLM ASB
8	Tile Adhesive	Boy's room 21	PLM ASB
9	Grout		PLM ASB
10	Blackboard Adhesive	Room 29	PLM ASB
11			PLM ASB
12			PLM ASB
13	Ceiling Tile	Hall near 18	PLM ASB
14	Cove Base	Hall near 22	PLM ASB
15	Adhesive		PLM ASB
16	Cove Base	27	PLM ASB
17	Adhesive		PLM ASB
18	Cove Base	13	PLM ASB
19	Adhesive		PLM ASB
20	Tile Adhesive	Boy's next east Entry	PLM ASB
21	Grout		PLM ASB
22			PLM ASB
23			PLM ASB
24			PLM ASB
25			PLM ASB
26			PLM ASB
27			PLM ASB
28			PLM ASB
29			PLM ASB
30			PLM ASB

Sampled By:	Ray Desmarais
Relinquished By:	Ray Desmarais
Date Sampled:	September 1, 2017
Date Shipped:	
Shipped By:	Federal Express
Shipped To:	Optimum
Received By:	MARTIN 9/1/17

**Appendix 2
PCB Lab Report**



Tuesday, September 12, 2017

**Attn: Mr. Ray Desmarais, CIH, CSP
Desmarais Environmental, Inc.
320 Hemlock Lane
Barrington, NH 03825**

**Project ID: GARRISON ELEMENTARY SCHOOL
Sample ID#s: BY95546 - BY95550**

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

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

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

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

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

**Phyllis Shiller
Laboratory Director**

**NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B**

**NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301**



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



Analysis Report

September 12, 2017

FOR: Attn: Mr. Ray Desmarais, CIH, CSP
Desmarais Environmental, Inc.
320 Hemlock Lane
Barrington, NH 03825

Sample Information

Matrix: BULK
Location Code: DESMAR
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

<u>Date</u>	<u>Time</u>
09/01/17	10:00
09/06/17	11:02

Laboratory Data

SDG ID: GBY95546
Phoenix ID: BY95546

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/06/17	X/I	SW3540C
<u>PCB (Soxhlet SW3540C)</u>							
PCB-1016	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1221	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1232	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1242	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1248	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1254	860	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1260	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1262	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
PCB-1268	ND	540	ug/Kg	1	09/07/17	AW	SW8082A
<u>QA/QC Surrogates</u>							
% DCBP	60		%	1	09/07/17	AW	30 - 150 %
% TCMX	45		%	1	09/07/17	AW	30 - 150 %

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

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an "as received" basis, and are not corrected for dry weight.

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

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

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Phyllis Shiller, Laboratory Director

September 12, 2017

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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



Analysis Report

September 12, 2017

FOR: Attn: Mr. Ray Desmarais, CIH, CSP
Desmarais Environmental, Inc.
320 Hemlock Lane
Barrington, NH 03825

Sample Information

Matrix: BULK
Location Code: DESMAR
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

<u>Date</u>	<u>Time</u>
09/01/17	10:00
09/06/17	11:02

Laboratory Data

SDG ID: GBY95546
Phoenix ID: BY95547

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/08/17	X/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1221	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1232	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1242	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1248	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1254	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1260	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1262	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A
PCB-1268	ND	96000	ug/Kg	200	09/08/17	AW	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out	%	200	09/08/17	AW	30 - 150 %
% TCMX	Diluted Out	%	200	09/08/17	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an "as received" basis, and are not corrected for dry weight.

PCB Comment:

For PCBs, due to matrix interference from non target compounds in the sample an elevated RL was reported. Multiple cleanup steps were performed but were unsuccessful. The extract was cleaned up with a combination of sulfuric acid, potassium permanganate, copper powder and additional florisil.

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

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

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Phyllis Shiller, Laboratory Director

September 12, 2017

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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



Analysis Report

September 12, 2017

FOR: Attn: Mr. Ray Desmarais, CIH, CSP
Desmarais Environmental, Inc.
320 Hemlock Lane
Barrington, NH 03825

Sample Information

Matrix: BULK
Location Code: DESMAR
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

<u>Date</u>	<u>Time</u>
09/01/17	10:00
09/06/17	11:02

Laboratory Data

SDG ID: GBY95546
Phoenix ID: BY95548

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/06/17	XI	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1221	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1232	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1242	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1248	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1254	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1260	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1262	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A
PCB-1268	ND	69000	ug/Kg	100	09/08/17	AW	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out	%	100	09/08/17	AW	30 - 150 %
% TCMX	Diluted Out	%	100	09/08/17	AW	30 - 150 %

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 3

Phoenix I.D.: BY95548

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

PCB Comment:

For PCBs, in order to reach the desired RL, multiple cleanup steps were performed. The extract was cleaned up with a combination of sulfuric acid, potassium permanganate, copper powder and additional florisol.

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

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

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Phyllis Shiller, Laboratory Director

September 12, 2017

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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



Analysis Report

September 12, 2017

FOR: Attn: Mr. Ray Desmarais, CIH, CSP
Desmarais Environmental, Inc.
320 Hemlock Lane
Barrington, NH 03825

Sample Information

Matrix: BULK
Location Code: DESMAR
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

09/01/17 10:00
09/06/17 11:02

Laboratory Data

SDG ID: GBY95546
Phoenix ID: BY95549

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/06/17	X/I	SW3540C
<u>PCB (Soxhlet SW3540C)</u>							
PCB-1016	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1221	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1232	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1242	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1248	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1254	2000	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1260	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1262	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
PCB-1268	ND	800	ug/Kg	5	09/07/17	AW	SW8082A
<u>QA/QC Surrogates</u>							
% DCBP	52		%	5	09/07/17	AW	30 - 150 %
% TCMX	51		%	5	09/07/17	AW	30 - 150 %

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 4

Phoenix I.D.: BY95549

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

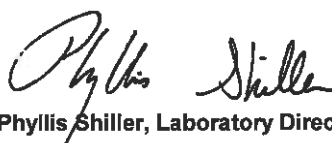
Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

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

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

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Phyllis Shiller, Laboratory Director

September 12, 2017

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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



Analysis Report

September 12, 2017

FOR: Attn: Mr. Ray Desmarais, CIH, CSP
Desmarais Environmental, Inc.
320 Hemlock Lane
Barrington, NH 03825

Sample Information

Matrix: BULK
Location Code: DESMAR
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date	Time
09/01/17	10:00
09/06/17	11:02

Laboratory Data

SDG ID: GBY95546
Phoenix ID: BY95550

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/06/17	X/I	SW3540C
<u>PCB (Soxhlet SW3540C)</u>							
PCB-1016	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1221	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1232	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1242	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1248	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1254	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1260	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1262	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
PCB-1268	ND	1000	ug/Kg	2	09/07/17	AW	SW8082A
<u>QA/QC Surrogates</u>							
% DCBP	54		%	2	09/07/17	AW	30 - 150 %
% TCMX	50		%	2	09/07/17	AW	30 - 150 %

Project ID: GARRISON ELEMENTARY SCHOOL
Client ID: 5

Phoenix I.D.: BY95550

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

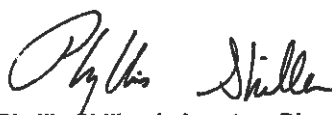
Comments:

Results are reported on an "as received" basis, and are not corrected for dry weight.

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

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

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Phyllis Shiller, Laboratory Director

September 12, 2017

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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



QA/QC Report

September 12, 2017

QA/QC Data

SDG I.D.: GBY95546

Parameter	Blank	RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 400415 (ug/Kg), QC Sample No: BY95647 10X (BY95546, BY95547, BY95548, BY95549, BY95550)										
<u>Polychlorinated Biphenyls - Bulk</u>										
PCB-1016	ND	170	93	89	4.4	94	93	1.1	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	95	96	1.0	109	109	0.0	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	99	%	103	103	0.0	102	102	0.0	30 - 150	30
% TCMX (Surrogate Rec)	90	%	97	93	4.2	93	94	1.1	30 - 150	30

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

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director
September 12, 2017

Tuesday, September 12, 2017

Criteria: None

State: NH

Sample Criteria Exceedances Report

GBY95546 - DESMAR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL	Analysis Units
BY95547	\$PCB_SOXR	PCB-1268	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1221	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1232	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1242	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1248	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1254	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1260	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1262	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95547	\$PCB_SOXR	PCB-1016	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1221	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1232	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1242	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1248	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1254	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1260	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1262	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1268	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95548	\$PCB_SOXR	PCB-1016	NH / Requested PCB RL /	ND	96000	1000	1000	ug/Kg
BY95549	\$PCB_SOXR	PCB-1254	NH / Requested PCB RL /	2000	800	1000	1000	ug/Kg

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



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



Analysis Comments

September 12, 2017

SDG I.D.: GBY95546

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Date: 9/01/17

To: Brian Carter (Telephone: 603-224-5438), John L Carter Sprinkler Co,
9 Dunklee Rd, Bow NH 03304

Purpose: Microbiological analysis of water samples for the presence of microbiologically influenced corrosion (MIC) causing bacterium.

Facility Sampled: Garrison Elementary School
50 Garrison Rd
Dover, NH

Date Sample Received: 8/17/17

Quantity and type of samples: 3 water samples

Sample Identification: #1 – System Riser
#2 – Classroom # 30
#3 - Classroom # 37

System Information: Wet System, 1 Riser, 1 Floor, TW , Sch 40 Black Pipe

Certification of Testing Methods

APB, SRB, IRB, HAB and SLYM test vials have been tested against the appropriate A.T.C.C. (American Type Culture Collection) strains for each specific group of bacterium.

Microbiological Testing Procedure

Samples were tested for the following groups of bacteria: Sulfate Reducing Bacterium—*SRB*, Acid Producing Bacterium—*APB*, Iron Reducing Bacterium—*IRB*, Heterotrophic Bacteria—*HAB* and Slime Producing Bacteria—*SLYM*. (Please see references for complete descriptions of these bacterium groups and how they relate to MIC corrosion). The cultures were started on 8/17/2017 and allowed to grow until 8/29/2017.

Overall MIC Rating

X	Overall Contamination Level *	Basis
	High	Minimum of two "High" MIC Bacteria (APB,SRB,or IRB) , excluding supporting bacteria
X	Medium	Minimum of one "High"or "Medium" MIC Bacteria (APB,SRB,or IRB) , excluding supporting bacteria
	Low	Three "Low" MIC Bacteria (APB, SRB, or IRB), excluding supporting bacteria

* Based on three separate bacteria tests from one sample, excluding slime forming and heterotrophic bacteria due to presence alone does not justify MIC bacteria existence or activity level. The system may vary for bacterium growth and results are based on this particular sample at the time it was sampled. The presence of any bacteria illustrates the possibility of corrosion taking place in that particular system.

Test Results

Bacteria Type	Acid Producing		Sulfate Reducing		Iron Related		Slime Forming		Heterotrophic	
	Colony Count	Level	Colony Count	Level	Colony Count	Level	Colony Count	Level	Colony Count	Level
Sample 1	< 150	Low	< 200	Low	9000	High	< 500	Low	500000	High
Sample 2	1500	Medium	< 200	Low	500	Medium	< 500	Low	500000	High
Sample 3	< 150	Low	< 200	Low	< 25	Low	< 500	Low	500000	High

Levels of Bacteria Contamination

Type of Bacteria	Low Range	Medium Range	High Range
Acid Producing Bacteria (APB)	< 150	150 - 1500	>1500
Sulfate Reducing Bacteria (SRB)	< 200	200 - 1200	>1200
Iron Related Bacteria (IRB)	< 25	25 - 500	> 500
Slime Forming Bacteria (SLYM)	< 500	500 - 12500	> 12500
Heterotrophic Bacteria (HAB)	< 7000	7000 - 50000	> 50000

Conclusion

Acid Producing Bacterium (APB), are present in moderate colony counts. APB produces mineral and organic acids as a by-product of their metabolic process. These acids are very corrosive to metallic surfaces and result in localized corrosion affecting the integrity of piping and fire sprinkler system components.

Iron Related Bacteria (IRB) are present in moderate to high colony counts. IRB are responsible for iron reduction and oxidation (redox) chemical reactions. Integrity of piping and fire sprinkler components are compromised by these chemical reactions. IRB infection is local in nature and may be in very high populations in other areas of the fire sprinkler system, as well.

Discussion and Recommendation

Samples have shown the presence of MIC bacteria in moderate to high colony counts. Results of testing suggest corrosion of the fire sprinkler system is probable.

Microbiologically influenced corrosion is local in nature. Take steps to monitor and mitigate corrosion in systems.

Thank you for giving us the opportunity to participate in this study. Please contact myself or Mr. Dave English (610-505-2257, email: davee@pottersignal.com) with any questions you may have about this report, or recommendation. We enjoyed working with you on this project and look forward to working with you in the future.

Sincerely,

Randy McPeak

Randy McPeak

Lab Manager

Potter Corrosion Solutions

Potter Electric Signal Company

Telephone: 314-595-6732

randym@Pottersignal.com

MAN. NO. CIPM#GES17
DATE: 10/10/2017

VENDOR VOUCHER MANIFEST
SCHOOL DISTRICT SAU #11

1. DATE	2. PAYEE NAME AND ADDRESS	3. FINANCE PO NO:	4. AMOUNT EXPENDED	5. AMOUNT OF CHECK	6. PROJECT NAME
1. 10/10/2017	Harriman 46 Harriman Drive Auburn, ME 04210				
Line #1	<u>4017.1.600.46900.4725.07103.17.000.000.700</u>	201707153	\$	99,000.00	Fee
Line #2	<u>4017.1.600.46900.4725.07103.17.000.000.700</u>	201707153	\$	96.75	Fee
			\$	99,096.75	Inv#1708071
Professional Services from 8/1/2017-8/31/2017 for Phase 1 Design (Construction Documents) & Reimbursables					
TOTALS				\$99,096.75	

TO THE TREASURER; PAYMENTS AUTHORIZED AND ORDERED
TO THE PERSONS LISTED ABOVE FOR THE SUMS INDICATED
IN COLUMN 5. AMOUNT OF CHECK AMOUNTING IN THE
AGGREGATE TO:

99,096.75

Superintendent of Schools or Business Administrator

Date

Betsey Andrews Parker, School Board Vice Chair, JBC Chair

Date



46 Harriman Drive
Auburn, ME 04210
207.784.5100 telephone
INVOICE

Ms. Elaine Arbour
Superintendent of Schools
Dover School District
McConnell Center
61 Locust Street, Suite 409
Dover, NH 03820

August 31, 2017
Project No: 15618
Invoice No: 1708071

Project 15618 Dover School District, Garrison Elementary School Facilities Study
Professional Services from August 01, 2017 to August 31, 2017

Phase 00A Base Fees - Phase 1 Design
Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing
Schematic Design	74,250.00	100.00	74,250.00	74,250.00	0.00
Design Development	99,000.00	100.00	99,000.00	99,000.00	0.00
Construction Documents	198,000.00	50.00	99,000.00	0.00	99,000.00
Bidding	24,750.00	0.00	0.00	0.00	0.00
Construction Administration	99,000.00	0.00	0.00	0.00	0.00
Total Fee	495,000.00		272,250.00	173,250.00	99,000.00
		Total Fee			99,000.00
				Total this Phase	\$99,000.00

Phase ZEXP Expenses
Reimbursable Expenses

Rmb Postage					
8/7/2017	United Parcel Service	Design Development		7.70	
Rmb Travel					
8/9/2017	Lee, Mark	Mtg W/ Superintendent - Mileage		80.25	
	Total Reimbursables		1.1 times	87.95	96.75
				Total this Phase	\$96.75
				Total this Invoice	\$99,096.75

TERMS: Net 30 Days
1.5% Interest (18% Annually) will be charged on accounts over 30 days past due.

MAN. NO. CIPM#GES18
DATE: 10/10/2017

VENDOR VOUCHER MANIFEST
SCHOOL DISTRICT SAU #11

1. DATE	2. PAYEE NAME AND ADDRESS	3. FINANCE PO NO:	4. AMOUNT EXPENDED	5. AMOUNT OF CHECK	6. PROJECT NAME
1. 10/10/2017	Harvey Construction Corporation 10 Harvey Road Bedford, NH 03110				
	<u>4017.1.600.46900.4725.07103.17.000.000.700</u>			\$ 25,000.00	Inv#17-027
				\$ 25,000.00	
	CM's Preconstruction Phase Services				
TOTALS				\$25,000.00	

TO THE TREASURER; PAYMENTS AUTHORIZED AND ORDERED
TO THE PERSONS LISTED ABOVE FOR THE SUMS INDICATED
IN COLUMN 5. AMOUNT OF CHECK AMOUNTING IN THE
AGGREGATE TO:

25,000.00

Superintendent of Schools or Business Administrator

Date

Betsey Andrews Parker, School Board Vice Chair, JBC Chair

Date



10 Harvey Road
Bedford, NH 03110
P: (603) 624-4600
F: (603) 668-0389
harveyconstruction.com

INVOICE

DATE 9/14/2017
INVOICE: 17-027

BILL TO: Libby Simmons
The Dover School District - SAU 11
61 Locust Street, Ste 409
Dover, NH 03820

Garrison Elem School
Renovations/Additions
2017-000 X09

DESCRIPTION	HOURS	RATE	AMOUNT
Garrison Elem School Reno/Additions			
Schematic & Design Development Estimate and Alternates			
Pre-Con 0.5% of GMP \$31,656.00			
Current Construction Budget \$6,331,202.00			
Carl Dubois	155.00	120.00	\$18,600.00
Richard Burke	76.00	100.00	\$7,600.00
James Brennan	53.00	80.00	\$4,240.00
James Medaglia	96.00	65.00	\$6,240.00
Daniel Calley	44.00	50.00	\$2,200.00
Sub-Total			\$38,880.00
HCC Discount			-\$13,880.00
Remaining Unbilled Pre-Con Balance for Current GMP Estimate \$6,656.00			
TOTAL DUE:			\$25,000.00

Terms: Net 30

Make All Checks Payable to Harvey Construction Corporation

THANK YOU FOR YOUR BUSINESS

MAN. NO. CIPM#GES19
DATE: 10/10/2017

VENDOR VOUCHER MANIFEST
SCHOOL DISTRICT SAU #11

1. DATE	2. PAYEE NAME AND ADDRESS	3. FINANCE PO NO:	4. AMOUNT EXPENDED	5. AMOUNT OF CHECK	6. PROJECT NAME
1. 10/10/2017	John L. Carter Sprinkler Co., Inc. 9 Dunklee Road Bow, NH 03304				
	<u>4017.1.600.46900.4725.07103.17.000.000.700</u>	201801525		\$ 2,370.00	Inv#16175
				\$ 2,370.00	
	Sprinkler MIC testing				
TOTALS				\$2,370.00	

TO THE TREASURER; PAYMENTS AUTHORIZED AND ORDERED
TO THE PERSONS LISTED ABOVE FOR THE SUMS INDICATED
IN COLUMN 5. AMOUNT OF CHECK AMOUNTING IN THE
AGGREGATE TO:

2,370.00

Superintendent of Schools or Business Administrator

Date

Betsey Andrews Parker, School Board Vice Chair, JBC Chair

Date

JOHN L. CARTER SPRINKLER CO., INC.

9 DUNKLEE RD.

BOW, NH 03304

Invoice

Date	Invoice #
9/12/2017	16175

Bill To

DOVER SCHOOL DISTRICT
61 LOCUST DR.
DOVER, NH 03820
ATTN: LIBBY SIMMONS

P.O. No.

Terms

Due Date

Net 30

10/12/2017

Description	Amount
GARRISON SCHOOL SPRINKLER MIC TESTING CONTRACT AMOUNT \$2370.00 WORK COMPLETED THIS MONTH \$2370.00	2,370.00
VOUCHER _____ PO # _____ CHECK # _____ AMOUNT _____ DATE PAID _____	
9/18/17 ok to pay Jeffrey M. Melville	
Total	\$2,370.00
Balance Due	\$2,370.00