

**Hazardous Building Materials
Survey Report
For Building #678**



**Naval Station Newport
Newport, Rhode Island**

Prepared by:



**H&S Environmental, Inc.
160 East Main Street, Suite 2F
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September 2011

TABLE OF CONTENTS

1.0	PURPOSE AND SCOPE OF WORK.....	1
2.0	SITE DESCRIPTION	1
3.0	INSPECTION PERSONNEL, METHODS AND LABORATORIES.....	1
3.1	Inspection Personnel and Process	1
3.1.1	Inspection Personnel.....	1
3.1.2	Inspection Process.....	1
3.2	Asbestos Investigation.....	1
3.2.1	Methodology	2
3.2.2	Definition of Key Inspection Terms	2
3.3	Asbestos Laboratory Services.....	3
3.3.1	PLM Bulk Sample Analysis.....	3
3.3.2	Analytical Quality Control Program	3
3.4	LCP Investigation.....	4
3.4.1	Introduction	4
3.4.2	Testing Methodology.....	4
3.4.3	XRF Testing Procedures.....	4
3.4.4	Bulk Paint Chip Sample Analysis	5
3.5	Polychlorinated Biphenyls (PCBs) and DEHP Investigation	5
3.6	Mercury Light Tubes and Thermostats Investigation.....	5
3.7	Chlorofluorocarbons (CFCs) Investigation.....	6
3.8	Air Sampling for Mold Concentrations.....	6
4.0	FINDINGS AND RECOMMENDATIONS	6
4.1	Asbestos-Containing Materials.....	6
4.1.1	Materials Classified as Asbestos Containing.....	6
4.1.2	Non-Asbestos-Containing Materials.....	7
4.2	Lead-Containing Paint.....	8
4.3	Polychlorinated Biphenyls (PCBs) and DEHP	8
4.4	Mercury	9
4.5	Chlorofluorocarbons.....	9
4.6	Air Sampling for Mold Concentrations.....	10

APPENDICES

Appendix A	Asbestos Bulk Sample Laboratory Analysis Results
Appendix B	Lead Containing Paint Bulk Sample Laboratory Analysis Results & XRF Form
Appendix C	Hazardous Building Materials Inventories
Appendix D	Mold Air Sampling Laboratory Report with Extended Fungal Summary
Appendix E	Site Photographs (As of January 25, 2010)

CERTIFICATION OF RESULTS

This report has been prepared for the exclusive use of the Client, Gale Associates, Inc. and the United States Navy. Photocopying of this document by parties other than those designated by the Client or its affiliates or use of this document for purposes other than it is intended, is prohibited.

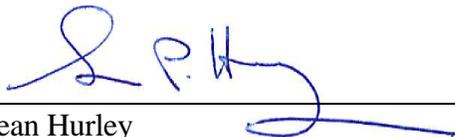
Respectfully submitted this 28th day of September 2011.

Report Prepared by:



Matthew Buccella
Building Inspector

Report Reviewed by:



Sean Hurley
Project Manager

1.0 PURPOSE AND SCOPE OF WORK

H&S Environmental, Inc. (H&S) performed a hazardous building materials (HBM's) investigative survey of Building # 678 (the Site) located on the campus of the Naval Station Newport (NSN) located in Newport, Rhode Island. The purpose of the survey was to identify and confirm the presence or absence of asbestos-containing materials (ACMs), lead-containing paints (LCPs), Polychlorinated Biphenyls (PCBs), Mercury, Chlorofluorocarbons (CFCs) and Mold in preparation for possible site redevelopment including renovations and/or demolition of the structure.

The hazardous building materials inspection was conducted on September 15, 2011 in all accessible areas of the site excluding the roof. H&S using an experienced and accredited/licensed inspector and a licensed laboratory as described in Section 3.0 performed the inspection. Specific inspection methods, procedures, definitions and limitations are discussed in Sections 3.2 & 3.3. Section 4.0 contains a discussion of the results of our inspections and H&S's recommendations.

2.0 SITE DESCRIPTION

The site consists of a five-story concrete and brick veneer structure. The building is metal framed. The interior consists of gypsum board walls, 2' x 2' ceiling tile, carpet and resilient flooring materials (i.e. – floor tile & sheet flooring). The facility is currently occupied and functions as living quarters.

3.0 INSPECTION PERSONNEL, METHODS AND LABORATORIES

3.1 Inspection Personnel and Process

3.1.1 Inspection Personnel

The investigative survey was conducted on September 15, 2011 by trained and certified Rhode Island licensed Asbestos Inspector, Mr. Matthew Buccella (License # AAC-0817IS) an experienced asbestos containing materials inspector.

3.1.2 Inspection Process

The inspection for hazardous building materials was conducted in a systematic manner using H&S's standard safety procedures and inspection protocol including:

1. Interviews with individuals knowledgeable about the building. No existing written documentation / information was available regarding the presence or absence of hazardous building materials.
2. A visual inspection of accessible areas of the affected building areas to locate, quantify, and assess the condition of materials suspected to contain asbestos, LCP, PCBs/DEHPs, CFCs, Mercury and Mold
3. Collection and analysis of materials as described herein to determine composition.

3.2 Asbestos Investigation

3.2.1 Methodology

The inspection for suspect ACMs included:

1. Collection of representative bulk samples of each homogeneous area or application of suspect material in sufficient numbers to comply with the Environmental Protection Agency (EPA) / Asbestos Hazard Emergency Response Act (AHERA) minimum criteria (see Chart A below).
2. To prevent release of any airborne asbestos, samples were collected by first carefully wetting the suspect materials and then removing a small full-thickness sample and placing it in a sealed plastic bag labeled with a unique sample identification number.
3. Chain-of-custody documentation was used to ensure sample integrity.
4. Analysis of the bulk samples at an accredited laboratory using the EPA approved Polarized Light Microscopy (PLM) method.
5. A review of the inspection findings and lab results to ensure proper and consistent identification and characterization of all assumed and confirmed ACMs.

Chart A	
Minimum Asbestos Bulk Sampling Criteria	
Type of Suspect Material	Minimum Sampling Criteria
Surfacing	EPA/AHERA mandated statistically random criteria (Min. of 3 Samples; Max. of 7 Samples)
Miscellaneous	Minimum of 2 samples of each homogeneous application (unless otherwise noted)
Thermal System Insulations	Three random samples of each homogeneous application.

3.2.2 Definition of Key Inspection Terms

Given the specific purposes and objectives of this inspection, the following definitions were used for the terms: suspect materials, homogeneous applications or areas of suspect materials, friable materials, inaccessible building areas, and confirmed ACMs:

1. **Suspect Materials:** Building materials that may contain asbestos. The following materials are considered non-suspect and were not sampled or assessed if observed:
 - Plastic
 - Glass
 - Wood or Wood Composite Materials
 - Brick, Granite, Marble, or Other Stonework
 - Pink or Yellow Fiberglass Insulation on Pipes or Other Mechanical Components
 - Clay or Ceramic Tiles
 - Rubber or Synthetic Foam
 - Paint (unless textured)
 - Concrete or Mortar (except Gyp-Crete)
 - Carpeting, Curtains, Wallpaper, and Other Paper/Natural Fiber, Fabric, or Synthetics
2. **Homogeneous Applications or Areas:** Suspect materials which serve the same function or purpose (e.g., floor or ceiling tiles), have similar color and texture and were likely installed at or near the same time. Homogeneity is a determining factor in calculating the number of bulk samples collected for a particular material.
3. **Friable Materials:** Suspect materials that may be easily reduced to a powder by applying hand pressure, (e.g., sprayed-on fireproofing as opposed to a non-friable material such as vinyl floor tile).
4. **Inaccessible Building Areas:** Building areas, systems, structural components, or surfaces which could not be observed because it was unsafe or impractical to demolish, disassemble, or remove systems or coverings, or because a human being cannot physically enter or observe the area or component. Inaccessible areas include below grade building foundations, pipe trenches and utility vaults/corridors, electrical equipment/wire, pipe gaskets, in-filled window openings, fire doors and enclosed wall and ceiling cavities.
5. **Confirmed ACMs:** Suspect materials where at least one (1) of the collected bulk samples contained an asbestos concentration of 1% or more. According to EPA's AHERA criteria, all bulk samples of a homogeneous area of suspect ACM must be found to contain less than 1% asbestos to conclude that the material is not regulated as an ACM by EPA under the National Emissions Standard for Hazardous Air Pollutants regulation (NESHAPs).

3.3 Asbestos Laboratory Services

3.3.1 PLM Bulk Sample Analysis

A total of forty-four (44) bulk samples were collected during the inspection and were submitted to EMSL Analytical Services, Inc. (EMSL) located in Woburn, Massachusetts for analysis. EMSL is fully accredited for bulk sample analysis under the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology (NIST). Bulk samples were analyzed for asbestos content using EPA Method 600/R-93/116.

3.3.2 Analytical Quality Control Program

The AmeriSci quality assurance and control program was developed in strict compliance with NIST/NVLAP requirements.

3.4 LCP Investigation

3.4.1 Introduction

Historically, lead was added to paint because its color stability properties made it a desirable pigment and because it enhances durability. Lead-containing paint becomes harmful when inhaled as dust or fumes or when ingested. Once lead pigment was proven to be a health hazard, it was officially banned in 1978 from paint applied in residences.

In an occupational or industrial setting, if lead-containing painted surfaces are to be impacted by renovation or demolition activities, contractor personnel exposure (per OSHA compliance) and waste disposal (per EPA compliance) issues must be addressed and factored into the cost of the project. Specifically, contractors are required to comply with all applicable OSHA regulations including 29 CFR 1926.62 *Lead Exposure on Contractors Interim Final Rule* and 29 CFR 1926.59 *Hazard Communication for the Construction Industry*. These regulations are applicable for all construction workers that are involved in activities that impact lead containing paint and/or generate airborne lead.

3.4.2 Testing Methodology

H&S utilized a Portable X-Ray Fluorescence Analyzer (XRF) to perform the lead-containing paint survey. The XRF is a hand held instrument that contains a radioisotopic source and operates on the principle of X-ray fluorescence. The depression of a spring-loaded button on the XRF unit opens a shutter in the faceplate that allows radiation from an isotopic source to stimulate the lead atoms in the paint. This stimulation causes the atoms to emit (fluoresce) X-rays, which the unit detects and converts into electrical pulses. These pulses are then sorted and counted and the result is read through a digital display on the instrument.

Surface levels of lead are measured in units of milligrams per square centimeter (mg/cm^2). The XRF used in this survey, the Niton Model XL Analyzer, is able to detect as little as $0.01 \text{ mg}/\text{cm}^2$. OSHA classifies any substance with a detectable amount of lead to be a "lead-containing" material. The Niton XL Lead Paint Analyzer quickly, accurately, and non-destructively measures the concentration of paints and surface coatings.

3.4.3 XRF Testing Procedures

Upon arrival at the job site, a "validation test" is performed to ensure that the XRF instrument is operating properly. The validation test is performed on a calibration test sheet supplied by the manufacturer to determine if the instrument is measuring the lead content consistently. During this survey the instrument was functioning within the standard deviation as defined by the manufacturer.

In conducting the LCP survey, representative tests were performed on homogeneous (similar color, texture, and use) painted surfaces throughout the building. Results were related to other surfaces

possessing similar homogeneous characteristics. By following this sampling protocol, every painted surface did not have to be sampled.

3.4.4 Bulk Paint Chip Sample Analysis

In addition to the XRF testing, one (1) bulk paint chip sample was collected and analyzed to confirm the XRF results. The sample was submitted to EMSL Analytical Services, Inc. (EMSL) located in Woburn, Massachusetts. EMSL is fully accredited for lead bulk sample analysis under the Environmental Lead Proficiency Analytical Testing (ELPAT) Program administered by the American Industrial Hygiene Association (AIHA). The bulk paint chip sample was analyzed for lead content using Atomic Absorption Spectrophotometry (AAS) under EPA Method SW846-7420. Results are included in Appendix C - XRF Tables and Laboratory Results for Lead Containing Paint Testing.

3.5 Polychlorinated Biphenyls (PCBs) and DEHP Investigation

H&S performed an inspection of the Site to identify suspect PCB-containing fluorescent light ballasts and transformers. Additionally fluorescent light fixtures were identified and inventoried for the possible presence of di (2-ethylhexyl) phthalate (DEHP). The survey was conducted in a systematic manner that included:

1. Performing a detailed walk-through to visually inspect and categorize the various types of accessible fluorescent light fixtures.
2. Selecting a representative number of light fixtures to inspect.
3. Listing pertinent information from light ballast labels or nameplates affixed during the manufacturing process.
4. Preparing an inventory of electrical light ballasts and transformers known or suspected to contain PCBs or DEHP.

3.6 Mercury Light Tubes and Thermostats Investigation

An inspection was conducted throughout the Site to identify suspect Mercury-containing equipment and materials as follows:

1. Performing a walk-through and preparation of an inventory of fluorescent light bulbs that may contain Mercury vapor.
2. Performing a walk-through to identify and inventory thermostats and other equipment that contain liquid Mercury.

3.7 Chlorofluorocarbons (CFCs) Investigation

An inspection was conducted throughout the Site to identify suspect chlorofluorocarbons (CFCs) associated with refrigeration and air conditioning equipment. The survey included performing a walk through of the building and preparation of an equipment inventory including an estimate of the size of the unit and/or the estimated quantity of CFCs.

3.8 Air Sampling for Mold Concentrations

To sample for non-viable airborne fungi, H&S used air-sampling cassettes with sampling pumps to draw air onto the filter media. The filter media is sent to an accredited laboratory for microscopic analysis. The airborne aerosols that are trapped on the filter media include mold spores, pollen, insect parts, skin cell fragments, fibers and inorganic particulate.

The sampling cassette is designed to operate at 15 liters per minute (LPM). The sampling period is dependent upon the density of the particulate in the environment. In normal office building conditions the LPM for the pumps are set at higher levels. In most buildings foot traffic and activities are at low to moderate levels. In busier buildings, such as airport terminals, the LPM is at lower levels (5 LPM). In heavy construction areas, the LPM is set at the lowest level (1 LPM). For this investigation, H&S used 15 LPM for eight (8) minute sample durations. The air sampling pump was calibrated with a BIOS DryCal[®] DC-Lite primary flow meter.

The samples were delivered to EMSL Analytical Services Inc. (EMSL) located in Woburn, Massachusetts. Chain-of-custody documentation was used to ensure sample integrity. EMSL is accredited under the American Industrial Hygiene Association (AIHA). Once processed by the laboratory receiving area, the samples were analyzed by optical microscopy (non-viable). Results are reported as Total Fungi Counts (counts per cubic meter). In addition, identification of mold genus was performed which identified the primary mold colonizers. Please see Appendix D - Mold Air Sampling Laboratory Report with Extended Fungal Summary.

4.0 FINDINGS AND RECOMMENDATIONS

4.1 Asbestos-Containing Materials

4.1.1 *Materials Classified as Asbestos Containing*

A total of two (2) bulk samples collected from materials from the specified areas confirmed the presence of ACM's. The materials **confirmed** to contain asbestos in the inspected areas are summarized as follows:

Location	Material
Exterior; East Side of Building; Under Brick Façade	Damp-Proofing Material

4.1.2 Non-Asbestos-Containing Materials

The following materials have been classified as **non-ACMs** in the inspected areas:

Location	Material
Exterior; South & East Side of Building	Exterior Finish Insulation System (EFIS)
Exterior; South & East Side of Building	EFIS Adhesive
Exterior; South & East Side of Building	Caulking (EFIS to Concrete)
Exterior; East Side of Building	Original Caulking (Brick to EFIS)
Exterior; South & East Side of Building; First Floor	Original Window Caulking
Exterior; South & East Side of Building; Second Floor	Caulking (Brick to Concrete)
Interior; Units 27 & 40; Kitchen	Speckled Sheet Flooring & Associated Adhesive
Interior; Units 28 & 59; Living Room	Fire Stop Putty (Red)
Interior; Units 28 & 40; Kitchen	2' x 2' Ceiling Tile
Interior; Second Floor & Fifth Floor; Hallway; Utility Closet	Air Duct Seam Sealant
Interior; Unit 29; Living Room, Second Floor; Storage Room, Unit 40; Living Room	Joint Compound
Interior; Units 29 & 40; Bathroom	2' x 2' Ceiling Tile (Plaster)
Interior; Second Floor; Storage Unit, Third Floor; Laundry Room	12" x 12" Floor Tile (& Associated Mastic)
Interior; Second Floor; Storage Unit, Third Floor; Laundry Room	Covebase Adhesive
Interior; Third Floor; Employee Break Room, Unit 59; Living Room	Carpet Mastic
Interior; First Floor; Mechanical Room	End Cap Paint (On Fiberglass Insulation)

4.1.3 Discussion and Recommendations

The mere presence of asbestos in a building does not mean that the health of building occupants is necessarily at risk. As long as the ACMs remain in good condition and are not disturbed, exposure is unlikely. However, when building maintenance, repair, renovation, demolition or other activities disturb ACMs, or if ACMs are damaged, asbestos fibers are released creating a potential hazard to building occupants. Contractors and employees performing demolition, construction or renovation activities must be informed of the presence of ACMs if the activities may impact these materials.

H&S recommends that all ACMs be removed by a Rhode Island-licensed Asbestos Contractor prior to demolition or renovation of the building.

Until all ACMs are removed, they should be managed according to governing regulations. All ACMs in each of the buildings should be included in a site-specific asbestos operations and maintenance (O&M) program designed at a minimum to comply with 29 CFR 1910.1001 and 1926.1101, incorporating the basic components outlined in the EPA's *Guide to Managing Asbestos in Buildings*. No other actions are recommended at this time.

4.2 Lead-Containing Paint

Testing was performed on primary coated surfaces located throughout the building. A total of one (1) bulk chip was analyzed for lead content. Results of the components indicated that the coatings contain very low concentrations of lead. Detailed results are presented in Appendix B - Lead Containing Paint Bulk Sample Laboratory Analysis Results & XRF Form.

Although the HUD⁽¹⁾ lead paint standard classifies lead-based paint (LBP) as that having $\geq 0.5\%$ of lead by weight as analyzed by Atomic Absorption. For the purposes of renovation and/or demolition work, OSHA defines lead-containing paint (LCP) as any paint containing detectable amounts of lead.

The current interpretation of the EPA's Resource Conservation and Recovery Act (RCRA) requires that waste generated during projects where LCPs are present and will be disposed of is tested for the toxicity characteristic of lead in the waste stream. Toxicity Characteristic Leachate Procedure (TCLP) testing is performed to determine whether the waste (construction debris) must be classified as hazardous because of its lead content or if it can be disposed in a conventional construction and demolition (C&D) landfill. The regulatory limit for lead toxicity is 5.0 milligrams per liter (mg/L) using the EPA reference Method SW846-7420 for Atomic Absorption Spectroscopy (AAS).

4.3 Polychlorinated Biphenyls (PCBs) and DEHP

Representative fluorescent light fixtures were inspected throughout the site to determine if the ballasts contained polychlorinated biphenyls, PCBs. Additionally fluorescent light fixtures were identified and inventoried for the possible presence of di (2-ethylhexyl) phthalate (DEHP). Ballasts that do not have labels indicating the absence of PCBs should be assumed to contain PCBs. Ballasts

⁽¹⁾ U.S. Department of Housing and Urban Development

that do not contain PCBs should be assumed to contain DEHP. All of the ballasts were observed to be undamaged and not leaking fluids.

All of the representative light fixtures that were inspected were found to have “No PCBs” labeling. As such, the ballasts should be handled as non PCB-containing. However, since the investigation involved inspecting only a representative number of ballasts, all ballasts should be checked for labeling before they are disposed of. Those, which are not labeled “No PCBs”, must be removed, packaged and disposed of in accordance with the EPA’s Green Lights Program (July 1994) for Lighting Waste Disposal.

There are two methods currently available for disposal of PCB ballasts including incineration (recycling) and disposal. Incineration is typically more expensive but is believed to reduce the “cradle to grave liability” for the Generator. Regardless of the method, documentation of proper disposal should be provided to the Owner/Generator.

4.4 Mercury

An inventory of fluorescent light bulbs/tubes was prepared in conjunction with the investigation for PCBs (Appendix C). The fluorescent light bulbs located throughout the building are assumed to contain Mercury. All fluorescent light bulbs/tubes known or presumed to contain Mercury must be removed, packaged, handled, transported and disposed of in compliance with governing regulations.

Handling and disposal of all fluorescent light bulbs/lamps presumed to contain Mercury vapor should be performed in compliance with the EPA’s Green Lights Program (July 1994) for Lighting Waste Disposal as well as the EPA’s Resource Conservation and Recovery Act (RCRA), and other governing regulations. Specific regulations pertaining to the handling, packaging, transportation and disposal (recycling) of Mercury liquid and vapor include the EPA Regulation 40 CFR, Parts 260 through 272.

Additionally, thermostats and associated mechanical equipment were inspected for the possible presence of liquid Mercury. H&S did not observe any elemental mercury vessels in the thermostats.

4.5 Chlorofluorocarbons

H&S observed several types or pieces of equipment that contained confirmed or assumed chlorofluorocarbons, (CFCs). Please see Appendix C for specific locations and quantity.

Chlorofluorocarbon removal, transportation and disposal should be performed by a qualified and experienced CFC reclamation contractor / firm in accordance with governing regulations (e.g. EPA’s Clean Air Act Amendments) prior to removal and disposal of this equipment. Newer CFCs, which are unregulated as hazardous air pollutants, do not have similar removal, transport and disposal requirements.

4.6 Air Sampling for Mold Concentrations

Although there are no definitive levels set by Federal or State regulators for airborne fungi, the World Health Organization (WHO), as well as the Industrial Hygiene Community, laboratories and the American Conference of Governmental Industrial Hygienists (ACGHI), has adopted guidelines for assessing airborne fungi. Airborne fungi concentrations below 2,500 C/m³ are normally not a concern for indoor environments. Airborne levels outdoors are normally between 500 and 1,500 C/m³, but can easily exceed 20,000 C/m³ during the spring and summer months.

Indoor airborne levels that exceed 5,000 C/m³ are typically considered elevated and may be sufficiently elevated to show visible signs of mold contamination. The mold counts collected during this investigation are below the guidelines. Mold counts collected indoors when compared to the mold count collected outdoors, are considered low and should not pose a health risk to the majority of occupants.

APPENDIX A

**Asbestos Bulk Sample Laboratory
Analysis Results**



EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone: (781) 933-8411 Fax: (781) 933-8412 Email: bostonlab@emsl.com

Attn: **Matt Buccella**
Axiom Partners, Inc.
979 Main Street

Customer ID: AXIO80
Customer PO:
Received: 09/20/11 11:25 AM
EMSL Order: 131104441

Wakefield, MA 01880

Fax: (781) 213-6992 Phone: (781) 213-9198

EMSL Proj:
Analysis Date: 9/26/2011

Project: **Naval Station Newport; Building 678; Newport, RI**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-01A 131104441-0001	Exterior; South Side of Bldg - Exterior Finish Insulation System (EFIS)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-01B 131104441-0002	Exterior; East Side of Bldg - Exterior Finish Insulation System (EFIS)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-02A 131104441-0003	Exterior; South Side of Bldg - EFIS Adhesive	Blue Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-02B 131104441-0004	Exterior; East Side of Bldg - EFIS Adhesive	Blue Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-03A 131104441-0005	Exterior; South Side of Bldg - Caulking @ Column (EFIS to Concrete)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Initial Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

Analyst(s) _____

Kevin Pine (43)
Steve Grise (1)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. In and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102



EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone: (781) 933-8411 Fax: (781) 933-8412 Email: bostonlab@emsl.com

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EMSL Proj:
Analysis Date: 9/26/2011

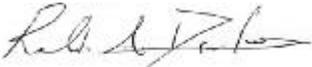
Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-03B <i>131104441-0006</i>	Exterior; East Side of Bldg - Caulking @ Column (EFIS to Concrete)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-04A <i>131104441-0007</i>	Exterior; South Side of Bldg - Caulking @ Spandrel Beam (EFIS to Concrete)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-04B <i>131104441-0008</i>	Exterior; South Side of Bldg - Caulking @ Spandrel Beam (EFIS to Concrete)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-05A <i>131104441-0009</i>	Exterior; East Side of Bldg - Original Caulking (Brick to EFIS)	Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
091311-06-05B <i>131104441-0010</i>	Exterior; East Side of Bldg - Original Caulking (Brick to EFIS)	Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Initial Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

Analyst(s)

Kevin Pine (43)
Steve Grise (1)



Renaldo Drakes, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102



EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone: (781) 933-8411 Fax: (781) 933-8412 Email: bostonlab@emsl.com

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Fax: (781) 213-6992 Phone: (781) 213-9198
Project: **Naval Station Newport; Building 678; Newport, RI**

EMSL Proj:
Analysis Date: 9/26/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-06A 131104441-0011	Exterior; South Side of Bldg; 1st FI - Original Window Caulking	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-06B 131104441-0012	Exterior; East Side of Bldg; 1st FI - Original Window Caulking	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-07A 131104441-0013	Exterior; South Side of Bldg; 2nd FI - Caulking; Brick to Concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-07B 131104441-0014	Exterior; East Side of Bldg; 2nd FI - Caulking; Brick to Concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-08A 131104441-0015	Unit 27; Kitchen - Linoleum; Speckled	Gray Fibrous Heterogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
091311-06-08B 131104441-0016	Unit 27; Kitchen - Linoleum; Speckled	Gray Fibrous Heterogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Initial Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

Analyst(s)

Kevin Pine (43)
Steve Grise (1)

Renaldo Drakes, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102



EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

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Attn: **Matt Buccella**
Axiom Partners, Inc.
979 Main Street

Wakefield, MA 01880

Customer ID: AXI080
Customer PO:
Received: 09/20/11 11:25 AM
EMSL Order: 131104441

Fax: (781) 213-6992 Phone: (781) 213-9198
Project: **Naval Station Newport; Building 678; Newport, RI**

EMSL Proj:
Analysis Date: 9/26/2011

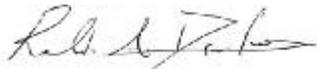
Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-09A <small>131104441-0017</small>	Unit 27; Kitchen - Mastic a/w 08A	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-09B <small>131104441-0018</small>	Unit 27; Kitchen - Mastic a/w 08B	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-10A <small>131104441-0019</small>	Unit 28; Living Room - Fire Stop Putty	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-10B <small>131104441-0020</small>	Unit 59; Living Room - Fire Stop Putty	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-11A <small>131104441-0021</small>	Unit 28; Kitchen - 2x2 Ceiling Tile	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (other)	None Detected
091311-06-11B <small>131104441-0022</small>	Unit 40; Kitchen - 2x2 Ceiling Tile	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Initial Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

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979 Main Street

Customer ID: AXIO80
Customer PO:
Received: 09/20/11 11:25 AM
EMSL Order: 131104441

Wakefield, MA 01880

Fax: (781) 213-6992 Phone: (781) 213-9198

EMSL Proj:
Analysis Date: 9/26/2011

Project: **Naval Station Newport; Building 678; Newport, RI**

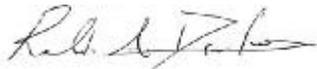
Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-12A <small>131104441-0023</small>	2nd Fl ; Hallway; Utility Closet - HVAC Seam Sealant	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-12B <small>131104441-0024</small>	5th Fl ; Hallway; Utility Closet - HVAC Seam Sealant	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-13A <small>131104441-0025</small>	Unit 29; Living Room (Soffit @ Window) - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-13B <small>131104441-0026</small>	2nd Fl; Storage Room - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-13C <small>131104441-0027</small>	Unit 40; Living Room @ Window - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-14A <small>131104441-0028</small>	Unit 29; Bathroom - 2x2 Ceiling Tile (Plaster)	Tan/White Fibrous Heterogeneous	10% Cellulose 2% Glass	88% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Inital Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

Analyst(s) _____

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Steve Grise (1)


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or other approved signatory

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Customer ID: AXIO80
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Received: 09/20/11 11:25 AM
EMSL Order: 131104441

Fax: (781) 213-6992 Phone: (781) 213-9198
Project: **Naval Station Newport; Building 678; Newport, RI**

EMSL Proj:
Analysis Date: 9/26/2011

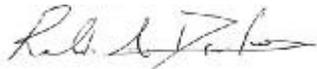
Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-14B <small>131104441-0029</small>	Unit 40; Bathroom - 2x2 Ceiling Tile (Plaster)	Tan/White Fibrous Heterogeneous	10% Cellulose 2% Glass	88% Non-fibrous (other)	None Detected
091311-06-15A <small>131104441-0030</small>	2nd Fl; Storage Unit - 12x12 Floor Tile; Rose Color	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-15B <small>131104441-0031</small>	3rd Fl; Laundry Room - 12x12 Floor Tile; Rose Color	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-16A <small>131104441-0032</small>	2nd Fl; Storage Unit - Mastic a/w 15A	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-16B <small>131104441-0033</small>	3rd Fl; Laundry Room - Mastic a/w 15B	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-17A <small>131104441-0034</small>	2nd Fl; Storage Unit - Covebase Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Initial Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

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Axiom Partners, Inc.
979 Main Street

Customer ID: AXIO80
Customer PO:
Received: 09/20/11 11:25 AM
EMSL Order: 131104441

Wakefield, MA 01880

Fax: (781) 213-6992 Phone: (781) 213-9198

EMSL Proj:
Analysis Date: 9/26/2011

Project: **Naval Station Newport; Building 678; Newport, RI**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-17B <small>131104441-0035</small>	3rd Fl; Laundry Room - Covebase Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-18A <small>131104441-0036</small>	3rd Fl; Employee Break Room - Carpet Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-18B <small>131104441-0037</small>	Unit 59; Living Room - Carpet Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-19A <small>131104441-0038</small>	1st Fl; Mechanical Room - End Cap Paint on Fiberglass Insulation	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
091311-06-19B <small>131104441-0039</small>	1st Fl; Mechanical Room - End Cap Paint on Fiberglass Insulation	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Initial Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

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EMSL Proj:
Analysis Date: 9/26/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
091311-06-20A <small>131104441-0040</small>	Exterior; East Side of Bldg - Damproofing under Brick Façade	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	10% Chrysotile
091311-06-20B <small>131104441-0041</small>	Exterior; East Side of Bldg - Damproofing under Brick Façade	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	10% Chrysotile
091311-06-21A <small>131104441-0042</small>	2nd Fl; Stairway Landing - Pipe Insulation Cover	White Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (other)	None Detected
091311-06-21B <small>131104441-0043</small>	3rd Fl; Stairway Landing - Pipe Insulation Cover	White Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (other)	None Detected
091311-06-21C <small>131104441-0044</small>	4th Fl; Stairway Landing - Pipe Insulation Cover	White Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (other)	None Detected

Report Amended: 09/26/2011 16:18:44 Replaces the Initial Report 09/24/2011 14:58:25. Reason Code: Client-Additional Analysis

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Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102



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 (212) 290-0058 Fax

EMSL – NJ
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 Westmont, NJ 08108
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 (856) 858-4960 Fax

Your Name: Matthew Buccella **Project Manager:** Matt Buccella / Sean Hurley

Company: Axiom Partners, Inc.

Street: 979 MAIN STREET

City/State/Zip: Wakefield, Massachusetts 01880

Phone: 781.213.9198 **Fax:** 781.213.6992 **Email:** mbuccella@axiomenv.com

Project Name: Naval Station Newport; Building 678 **Project #:**

Project Location: Newport, **Project State (US):** RI

TURNAROUND TIME

Rush 6 Hours 12 Hours 24 Hours 48 Hours 72 Hours 4 Days 5 Days 6-10 Days

SAMPLE MATRIX

Air Bulk Soil Wipe Micro-Vac Drinking Water Wastewater Chips Other

ASBESTOS ANALYSIS

PCM - Air

- NIOSH 7400 (A) Issue 2: August 1994
- OSHA w/TWA

TEM AIR

- AHERA 40 CFR, Part 763 Subpart E
- NIOSH 7402 Issue 2
- EPA Level II

PLM - Bulk

- EPA 600/R-93/116
- NY Stratified Point Count
- California Air Resource Board (CARB) 435
- NIOSH 9002
- PLM NOB (Gravimetric) NYS 198.1
- EPA Point Count (400 Points)
- EPA Point Count (1,000 Points)
- Standard Addition Point Count

SOILS

- EPA Protocol Qualitative
- EPA Protocol Quantitative
- EMSL MSD 9000 Method fibers/gram
- Superfund EPA 540-R097-028 (dust generation)

TEM BULK

- Drop Mount (Qualitative)
- Chatfield SOP-1988-02
- TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC

- ASTM D 5755-95 (Quantitative)

TEM WIPE

- ASTM D-6480-99
- Qualitative

TEM WATER

- EPA 100.1
- EPA 100.2
- NYS 198.2
- Other:

LEAD ANALYSIS

Flame Atomic Absorption

- Wipe, SW846-7420 ASTM non ASTM
- Soil, SW846-7420
- Air, NIOSH 7082
- Chips, SW846-7420 or AOAC 5.009 (974.02)
- Wastewater, SW 846-7420
- TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption

- Air, NIOSH 7105
- Wastewater, SW846-7421
- Soil, SW846-7421
- Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma

- Wipe, SW846-6010 ASTM non ASTM
- Soil, SW846-6010
- Air, NIOSH 7300

MATERIALS ANALYSIS

- Full Particle Identification
- Optical Particle Identification
- Dust Mites and Insect Fragments
- Particle Size and Distribution
- Product Comparison
- Paint Characterization
- Failure Analysis
- Corrosion Analysis
- Glove Box Containment Study
- Petrographic Examination of Concrete
- Portland Cement in Workplace Atmospheres (OSHA ID-143)
- Man Made Vitrous Fibers – MMVF's
- Synthetic Fiber Identification
- Other:

MICROBIAL ANALYSIS

Air Samples

- Mold & Fungi by Air O Cell
- Mold & Fungi by Agar Plate count & id
- Bacterial Count and Gram Stain
- Bacterial Count and Identification

Water Samples

- Total Coliforms, Fecal Coliforms
- Escherichia Coli, Fecal Streptococcus
- Legionella

Salmonella

- Giardia and Cryptosporidium

Wipe and Bulk Samples

- Mold & Fungi – Direct Examination
- Mold & Fungi – (Culture follow up to direct examination if necessary)
- Mold & Fungi – Culture (Count & ID)
- Mold & Fungi – Culture (Count only)

- Bacterial Count & Gram Stain

- Bacterial Count & Identification

(3 most prominent types)

Other: _____

IAQ ANALYSIS

- Nuisance Dust (NIOSH 0500 & 0600)
- Airborne Dust (PM10, TSP)
- Silica Analysis by XRD Niosh 7500
- HVAC Efficiency
- Carbon Black
- Airborne Oil Mist
- Other: _____

Additional Information/Comments/Instructions: _____

Client Sample # (S) _____

TOTAL SAMPLE # **44**

Relinquished: Matthew Buccella Date: 9-19-11 Time: _____

Received: **RECEIVED** Date: _____ Time: _____

Relinquished: _____ Date: _____ Time: _____

Received: SEP 20 2011 Date: _____ Time: _____

BY: SA 1125 walkin

131104441



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(212) 290-0058 Fax

EMSL – NJ
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Westmont, NJ 08108
(800) 220-3675
(856) 858-4960 Fax

SAMPLE NUMBER	LOCATION / SAMPLE DESCRIPTION	VOLUME Air (L)	Area (Inches sq.)	
1	091311-06-01A	Exterior; South Side of Building / Exterior Finish Insulation System (EFIS)	NA ¹	NA ¹
2	091311-06-01B	Exterior; East Side of Building / Exterior Finish Insulation System (EFIS)	NA ¹	NA ¹
3	091311-06-02A	Exterior; South Side of Building / EFIS Adhesive	NA ¹	NA ¹
4	091311-06-02B	Exterior; East Side of Building / EFIS Adhesive	NA ¹	NA ¹
5	091311-06-03A	Exterior; South Side of Building / Caulking @ Column (EFIS to Concrete)	NA ¹	NA ¹
6	091311-06-03B	Exterior; East Side of Building / Caulking @ Column (EFIS to Concrete)	NA ¹	NA ¹
7	091311-06-04A	Exterior; South Side of Building / Caulking @ Spandrel Beam (EFIS to Concrete)	NA ¹	NA ¹
8	091311-06-04B	Exterior; East Side of Building / Caulking @ Spandrel Beam (EFIS to Concrete)	NA ¹	NA ¹
9	091311-06-05A	Exterior; South Side of Building / Original Caulking (Brick to EFIS)	NA ¹	NA ¹
10	091311-06-05B	Exterior; East Side of Building / Original Caulking (Brick to EFIS)	NA ¹	NA ¹
11	091311-06-06A	Exterior; South Side of Building; First Floor / Original Window Caulking	NA ¹	NA ¹
12	091311-06-06B	Exterior; East Side of Building; First Floor / Original Window Caulking	NA ¹	NA ¹
13	091311-06-07A	Exterior; South Side of Building; Second Floor / Caulking; Brick to Concrete	NA ¹	NA ¹
14	091311-06-07B	Exterior; East Side of Building; Second Floor / Caulking; Brick to Concrete	NA ¹	NA ¹
15	091311-06-08A	Unit 27; Kitchen / Linoleum (Speckled)	NA ¹	NA ¹
16	091311-06-08B	Unit 27; Kitchen / Linoleum (Speckled)	NA ¹	NA ¹
17	091311-06-09A	Unit 27; Kitchen / Mastic Associated w/ Sample 08A	NA ¹	NA ¹
18	091311-06-09B	Unit 59; Kitchen / Mastic Associated w/ Sample 08B	NA ¹	NA ¹
19	091311-06-10A	Unit 28; Living Room / Fire Stop Putty	NA ¹	NA ¹
20	091311-06-10B	Unit 59; Living Room / Fire Stop Putty	NA ¹	NA ¹
21	091311-06-11A	Unit 28; Kitchen / 2' x 2' Ceiling Tile	NA ¹	NA ¹
22	091311-06-11B	Unit 40; Kitchen / 2' x 2' Ceiling Tile	NA ¹	NA ¹
23	091311-06-12A	Second Floor; Hallway; Utility Closet / HVAC Seam Sealant	NA ¹	NA ¹
24	091311-06-12B	Fifth Floor; Hallway; Utility Closet / HVAC Seam Sealant	NA ¹	NA ¹
25	091311-06-13A	Unit 29; Living Room (Soffit @ Window) / Joint Compound	NA ¹	NA ¹
26	091311-06-13B	Second Floor; Storage Room / Joint Compound	NA ¹	NA ¹
27	091311-06-13C	Unit 40; Living Room (@ Window) / Joint Compound	NA ¹	NA ¹
28	091311-06-14A	Unit 29; Bathroom / 2' x 2' Ceiling Tile (Plaster)	NA ¹	NA ¹
29	091311-06-14B	Unit 40; Bathroom / 2' x 2' Ceiling Tile (Plaster)	NA ¹	NA ¹

Relinquished:

Matthew Buccella

Date:

9-16-11

Time:

Received:

RECEIVED

Date:

Time:

Relinquished:

SEP 20 2011

Date:

Time:

Received:

BY: SA 1125

Date:

Time:

¹ Not Applicable

APPENDIX B

**Lead Containing Paint Bulk Sample
Laboratory Analysis Report & XRF Form**



EMSL Analytical, Inc.

3 Cooper St., Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 858-9551 Email: westmontleadlab@emsl.com

Attn: **Matt Buccella**
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Customer PO:
Received: 09/21/11 10:14 AM
EMSL Order: 201111412

Wakefield, MA 01880

Fax: (781) 213-6992 Phone: (781) 213-9198

EMSL Proj:

Project: **Naval Station Newport; Colbert Plaza; Newport, RI**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B*/7000B)

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Lead Concentration</i>
LBP-01	0001		9/23/2011	<0.011 % wt
Site: Unit 20; Closet Wall Paint; Beige				

Initial report from 09/23/2011 13:51:50

Julie Smith - Laboratory Director
NJ-NELAP Accredited:04653
or other approved signatory

Reporting limit is 0.01 % wt. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. 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.

* slight modifications to methods applied Samples received in good condition unless otherwise noted. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted

Samples analyzed by EMSL Analytical, Inc. Westmont, NJ NELAP Certifications: NJ 04653, NY 10896, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

20111412



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---	--	--	---

Your Name: Matthew Buccella **Project Manager:** Matt Buccella / Sean Hurley

Company: Axiom Partners, Inc.

Street: 979 MAIN STREET

City/State/Zip: Wakefield, Massachusetts 01880

Phone: 781.213.9198 **Fax:** 781.213.6992 **Email:** mbuccella@axiomenv.com

Project Name: Naval Station Newport; Colbert Plaza **Project #:** _____

Project Location: Newport, **Project State (US):** RI

TURNAROUND TIME

Rush
 6 Hours
 12 Hours
 24 Hours
 48 Hours
 3 Days
 4 Days
 5 Days
 6-10 Days

SAMPLE MATRIX

Air
 Bulk
 Soil
 Wipe
 Micro-Vac
 Drinking Water
 Wastewater
 Chips
 Other

ASBESTOS ANALYSIS

- PCM - Air**
- NIOSH 7400 (A) Issue 2: August 1994
 - OSHA w/TWA
- TEM AIR**
- AHERA 40 CFR, Part 763 Subpart E
 - NIOSH 7402 Issue 2
 - EPA Level II
- PLM - Bulk**
- EPA 600/R-93/116
 - NY Stratified Point Count
 - California Air Resource Board (CARB) 435
 - NIOSH 9002
 - PLM NOB (Gravimetric) NYS 198.1
 - EPA Point Count (400 Points)
 - EPA Point Count (1,000 Points)
 - Standard Addition Point Count
- SOILS**
- EPA Protocol Qualitative
 - EPA Protocol Quantitative
 - EMSL MSD 9000 Method fibers/gram
 - Superfund EPA 540-R097-028 (dust generation)
- TEM BULK**
- Drop Mount (Qualitative)
 - Chatfield SOP-1988-02
 - TEM NOB (Gravimetric) NY 198.4
- TEM MICROVAC**
- ASTM D 5755-95 (Quantitative)
- TEM WIPE**
- ASTM D-6480-99
 - Qualitative
- TEM WATER**
- EPA 100.1
 - EPA 100.2
 - NYS 198.2
 - Other: _____

LEAD ANALYSIS

- Flame Atomic Absorption**
- Wipe, SW846-7420 ASTM non ASTM
 - Soil, SW846-7420
 - Air, NIOSH 7082
 - Chips, SW846-7420 or AOAC 5.009 (974.02)
 - Wastewater, SW 846-7420
 - TCLP LEAD SW846-1311/7420
- Graphite Furnace Atomic Absorption**
- Air, NIOSH 7105
 - Wastewater, SW846-7421
 - Soil, SW846-7421
 - Drinking Water, EPA 239.2
- ICP – Inductively Coupled Plasma**
- Wipe, SW846-6010 ASTM non ASTM
 - Soil, SW846-6010
 - Air, NIOSH 7300

MATERIALS ANALYSIS

- Full Particle Identification
- Optical Particle Identification
- Dust Mites and Insect Fragments
- Particle Size & Distribution
- Product Comparison
- Paint Characterization
- Failure Analysis
- Corrosion Analysis
- Glove Box Containment Study
- Petrographic Examination of Concrete
- Portland Cement in Workplace Atmospheres (OSHA ID-143)
- Man Made Vitrous Fibers – MMVF's
- Synthetic Fiber Identification
- Other: _____

MICROBIAL ANALYSIS

- Air Samples**
- Mold & Fungi by Air O Cell
 - Mold & Fungi by Agar Plate count & id
 - Bacterial Count and Gram Stain
 - Bacterial Count and Identification
- Water Samples**
- Total Coliforms, Fecal Coliforms
 - Escherichia Coli, Fecal Streptococcus
 - Legionella
 - Salmonella
 - Giardia and Cryptosporidium
- Wipe and Bulk Samples**
- Mold & Fungi – Direct Examination
 - Mold & Fungi – (Culture follow up to direct examination if necessary)
 - Mold & Fungi – Culture (Count & ID)
 - Mold & Fungi – Culture (Count only)
 - Bacterial Count & Gram Stain
 - Bacterial Count & Identification (3 most prominent types)
 - Other: _____

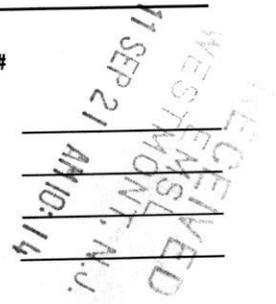
IAQ ANALYSIS

- Nuisance Dust (NIOSH 0500 & 0600)
- Airborne Dust (PM10, TSP)
- Silica Analysis by XRD Niosh 7500
- HVAC Efficiency
- Carbon Black
- Airborne Oil Mist
- Other: _____

Additional Information/Comments/Instructions: _____

Client Sample # (S) _____	TOTAL SAMPLE # _____
Relinquished: <u>Matthew Buccella</u>	Date: <u>9-20-11</u>
Received: <u>RECEIVED</u>	Date: _____
Relinquished: <u>SEP 20 2011</u>	Date: _____
Received: <u>BY: SA 1125 walking</u>	Date: _____

Ross Volzge 9/21/11



20111412



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--	---	---	--

SAMPLE NUMBER	LOCATION / SAMPLE DESCRIPTION	VOLUME Air (L)	Area (Inches sq.)
LBP-01	Unit 20; Closet Wall Paint; Beige	NA ¹	NA ¹

Relinquished: Matthew Buccella Date: 9-20-11 Time: _____
 Received: _____ Date: _____ Time: _____

RECEIVED
 SEP 20 2011
 BY: SA 1125

RECEIVED
 EMSL
 WESTMONT, N.J.
 11 SEP 21 AM 10:14

¹ Not Applicable

APPENDIX C

Hazardous Building Materials Inventories (Chlorofluorocarbons) (Mercury Containing Equipment) (Fluorescent Bulbs & Ballasts)

**HBM INVENTORY
 Naval Station Newport – Building #678
 Newport, Rhode Island
 September 2011**

Fluorescent Light Bulbs & Ballasts

Description	Qty	Location	Mfg./Model
Compact Fluorescent Bulb Fixture	~60	Throughout Hallways	Advance Cat. No. VS-25110-2-TP
Four Foot Bulb Fixture	~175	Throughout Hallways & Kitchens	Advance Cat. No. VS-25110-2-TP

Mercury-Containing Thermostats and Thermometers

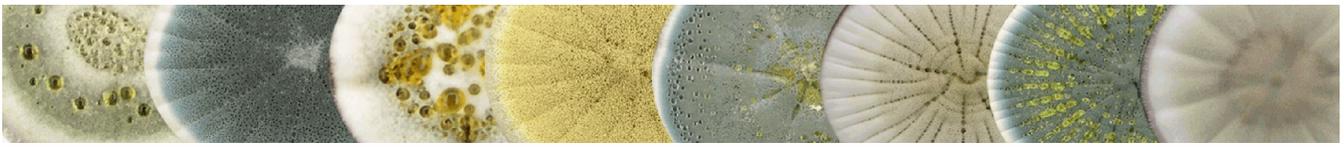
Location	Manufacturer	Number of Units
Not Applicable (NA)	NA	NA

Chlorofluorocarbons

Locations	Equipment	Quantity
Throughout Kitchens	Refrigerator	1 (per unit)
Roof Top	Large Unit	Unkown

APPENDIX D

**Mold Air Sampling Laboratory Report
With Extended Fungal Summary**

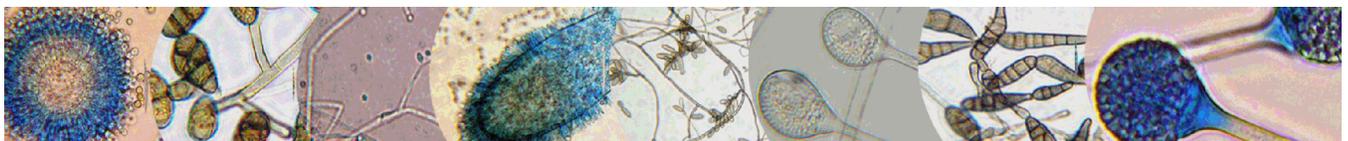


EXPANDED FUNGAL REPORT[®]

Prepared Exclusively For

Axiom Partners, Inc.
979 Main Street
Wakefield, MA 01880

Report Date: 9/28/2011
Project: Naval Station Newport; Building 678; Newport, RI
EMSL Order: 131104523



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EMSL Order: 131104523
Customer ID: AXIO80
Collected:
Received: 9/20/2011
Analyzed: 9/27/2011

Proj: Naval Station Newport; Building 678; Newport, RI

1. Description of Analysis

Analytical Laboratory

EMSL Analytical, Inc. (EMSL) is a nationwide, full service, analytical testing laboratory network providing Asbestos, Mold, Indoor Air Quality, Microbiological, Environmental, Chemical, Forensic, Materials, Industrial Hygiene and Mechanical Testing services since 1981. Ranked as the premier independently owned environmental testing laboratory in the nation, EMSL puts analytical quality as its top priority. This quality is recognized by many well-respected federal, state and private accrediting agencies, such as AIHA's EMLAP and EMPAT programs, and assured by our high quality personnel, including many Ph.D. microbiologists and mycologists.

EMSL is an independent laboratory that performed the analysis of these samples. EMSL did not conduct the sampling or site investigation for this report. The samples referenced herein were analyzed under strict quality control procedures using state-of-the-art microbiological methods. The analytical methods used and the data presented are scientifically and legally defensible.

The laboratory data is provided in compliance with AIHA policy modules and ISO 17025 guidelines for the particular test(s) requested, including any associated limitations for the methods employed. These data are intended for use by professionals having knowledge of the testing methods necessary to interpret them accurately.

Air Samples - Spore traps:

Spore traps are commercially available sampling devices that capture airborne particles on an adhesive slide. Air is pulled through the device using a vacuum pump. Spores, as well as other airborne particles, are impacted on the collection adhesive. Using spore trap collection methods has inherent limitations. These collection methods are biased towards larger spore sizes.

The analysis for total spore counts is a direct microscopic examination and does not include culturing or growing the fungi. Therefore, the results include both viable and non-viable spores. Some fungal groups produce similar spore types that cannot be distinguished by direct microscopic examination alone (i.e., *Aspergillus/Penicillium*, and others). Other spore types may lack distinguishing features that aid in their identification. These types are grouped into larger categories such as Ascospores or Basidiospores.

Fungal spores are identified and grouped by morphological characteristics including color, shape, septation, ornamentation, and fruiting structures (if present) which are compared to published mycological identification keys and texts. EMSL reports provide spore counts per cubic meter of air to three significant figures. Please note that each spore category is reported to three significant figures. Due to rounding and the application of three significant

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EMSL Order: 131104523
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Collected:
Received: 9/20/2011
Analyzed: 9/27/2011

Proj: Naval Station Newport; Building 678; Newport, RI

figures the sum of the individual spore numbers may not equal the total spore count on the report. EMSL does not maintain responsibility for final volume concentrations (counts/m³) since this volume is provided by the field collector and can not be verified by EMSL.

EMSL analyzes spore traps using phase contrast microscopy. There is a wide choice of collection devices (Air-O-Cell, Micro-5, Burkhard, etc.) on the market. Differences in analytical method may exist between spore trap devices.

Spore trap results are reported in spores per cubic meter of air. Due to the other airborne particles collected with the spores, EMSL reports a background particle density. Background density is an indication of overall particulate matter present on the sample (i.e. dust in the air). High background concentrations may obscure spores such as the *Penicillium/Aspergillus* group. The rating system is from 1-5 with 1 = 1 - 25% of the background obscured by material, 2 = 26 - 50%, 3 = 51 - 75%, 4 = 76% - 99%, 5 = 100% or overloaded. A background rating of 4 or higher should be regarded as a minimum count since the actual concentrations may be higher than those reported. EMSL will not be held responsible for overloading of samples. Sample volumes are left to the discretion of the company or persons conducting the fieldwork.

Skin fragment density is the percentage of skin cells making up the total background material, 1 = 1 - 25%, 2 = 26 - 50%, 3 = 51 - 75%, 4 = 76-100%. Skin fragment density is considered an indication of the general cleanliness in the area sampled. It has been estimated that up to 90% of household dust consists of dead skin cells.

2. Analytical Results

See attached data reports and charts.



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EMSL Order: 131104523
Customer ID: AXIO80
Collected:
Received: 9/20/2011
Analyzed: 9/27/2011

Proj: Naval Station Newport; Building 678; Newport, RI

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (EMSL Method 05-TP-003)

	Particle Identification	Sample Concentration (counts/m ³)	Background Concentration (counts/m ³)	Background Corrected (counts/m ³)
Lab Sample Number 131104523-0001	Alternaria	None Detected	27	Less than Background
	Ascospores	None Detected	None Detected	Equal To Background
	Aspergillus/Penicillium	405	None Detected	405
Client Sample ID 746551	Basidiospores	405	1220	Less than Background
	Bipolaris++	None Detected	None Detected	Equal To Background
	Chaetomium	None Detected	None Detected	Equal To Background
	Cladosporium	459	1320	Less than Background
Location Bldg 678; Unit 20 @ Window	Curvularia	None Detected	27	Less than Background
	Epicoccum	None Detected	None Detected	Equal To Background
	Fusarium	None Detected	None Detected	Equal To Background
	Ganoderma	None Detected	81	Less than Background
Sample Volume (L) 120	Myxomycetes++	None Detected	None Detected	Equal To Background
	Pithomyces	81	27	54
	Rust	None Detected	None Detected	Equal To Background
	Scopulariopsis	None Detected	None Detected	Equal To Background
Sample Type Inside	Smut	None Detected	27	Less than Background
	Stachybotrys	None Detected	None Detected	Equal To Background
	Torula	None Detected	None Detected	Equal To Background
	Ulocladium	None Detected	None Detected	Equal To Background
Comments	Unidentifiable Spores	None Detected	None Detected	Equal To Background
	Zygomycetes	None Detected	None Detected	Equal To Background
	Total Fungi	1350	2730	Less than Background
	Hyphal Fragment	27	None Detected	27
	Insect Fragment	None Detected	None Detected	Equal To Background
	Pollen	None Detected	None Detected	Equal To Background
	Analytical Sensitivity 600x:		27 counts/cubic meter	
	Analytical Sensitivity 300x *:		8* counts/cubic meter	
Skin Fragments:		2 1 to 4 (low to high)		
Fibrous Particulate:		1 1 to 4 (low to high)		
Background:		2 1 to 4 (low to high); 5 (overloaded)		

Initial report from: 09/27/2011 11:25:10

Bipolaris++ = Bipolaris/Dreschlera/Exserohilum

Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. *** Denotes particles found at 300X. *.* denotes not detected. EMSL maintains liability limited to 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. Samples received in good condition unless otherwise noted.

Renaldo Drakes, Laboratory Manager
or other Approved Signatory

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Wakefield, MA 01880

EMSL Order: 131104523
Customer ID: AXIO80
Collected:
Received: 9/20/2011
Analyzed: 9/27/2011

Proj: Naval Station Newport; Building 678; Newport, RI

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (EMSL Method 05-TP-003)

	Particle Identification	Sample Concentration (counts/m ³)	Background Concentration (counts/m ³)	Background Corrected (counts/m ³)
Lab Sample Number 131104523-0002	Alternaria	27	27	Equal To Background
	Ascospores	None Detected	None Detected	Equal To Background
	Aspergillus/Penicillium	54	None Detected	54
Client Sample ID 001331	Basidiospores	81	1220	Less than Background
	Bipolaris++	None Detected	None Detected	Equal To Background
	Chaetomium	None Detected	None Detected	Equal To Background
	Cladosporium	270	1320	Less than Background
Location Bldg 678; 2nd Fl; Laundry Rm	Curvularia	27	27	Equal To Background
	Epicoccum	None Detected	None Detected	Equal To Background
	Fusarium	None Detected	None Detected	Equal To Background
	Ganoderma	None Detected	81	Less than Background
Sample Volume (L) 120	Myxomycetes++	None Detected	None Detected	Equal To Background
	Pithomyces	27	27	Equal To Background
	Rust	None Detected	None Detected	Equal To Background
Sample Type Inside	Scopulariopsis	None Detected	None Detected	Equal To Background
	Smut	27	27	Equal To Background
	Stachybotrys	None Detected	None Detected	Equal To Background
	Torula	None Detected	None Detected	Equal To Background
Comments	Ulocladium	None Detected	None Detected	Equal To Background
	Unidentifiable Spores	54	None Detected	54
	Zygomycetes	None Detected	None Detected	Equal To Background
	Total Fungi	567	2730	Less than Background
	Hyphal Fragment	None Detected	None Detected	Equal To Background
	Insect Fragment	None Detected	None Detected	Equal To Background
	Pollen	27	None Detected	27
Analytical Sensitivity 600x:		27	counts/cubic meter	
Analytical Sensitivity 300x *:		8*	counts/cubic meter	
Skin Fragments:		2	1 to 4 (low to high)	
Fibrous Particulate:		1	1 to 4 (low to high)	
Background:		2	1 to 4 (low to high); 5 (overloaded)	

Initial report from: 09/27/2011 11:25:10

Bipolaris++ = Bipolaris/Dreschlera/Exserohilum

Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA

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Renaldo Drakes, Laboratory Manager
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EMSL Order: 131104523
Customer ID: AXIO80
Collected:
Received: 9/20/2011
Analyzed: 9/27/2011

Proj: Naval Station Newport; Building 678; Newport, RI

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (EMSL Method 05-TP-003)

	Particle Identification	Sample Concentration (counts/m ³)	Background Concentration (counts/m ³)	Background Corrected (counts/m ³)
Lab Sample Number 131104523-0003	Alternaria	27	27	N/A
	Ascospores	None Detected	None Detected	N/A
	Aspergillus/Penicillium	None Detected	None Detected	N/A
Client Sample ID 001347	Basidiospores	1220	1220	N/A
	Bipolaris++	None Detected	None Detected	N/A
	Chaetomium	None Detected	None Detected	N/A
	Cladosporium	1320	1320	N/A
Location Exterior; Courtyard	Curvularia	27	27	N/A
	Epicoccum	None Detected	None Detected	N/A
	Fusarium	None Detected	None Detected	N/A
	Ganoderma	81	81	N/A
Sample Volume (L) 120	Myxomycetes++	None Detected	None Detected	N/A
	Pithomyces	27	27	N/A
	Rust	None Detected	None Detected	N/A
	Scopulariopsis	None Detected	None Detected	N/A
Sample Type Background	Smut	27	27	N/A
	Stachybotrys	None Detected	None Detected	N/A
	Torula	None Detected	None Detected	N/A
	Ulocladium	None Detected	None Detected	N/A
Comments	Unidentifiable Spores	None Detected	None Detected	N/A
	Zygomycetes	None Detected	None Detected	N/A
	Total Fungi	2730	2730	N/A
	Hyphal Fragment	None Detected	None Detected	N/A
	Insect Fragment	None Detected	None Detected	N/A
	Pollen	None Detected	None Detected	N/A
	Analytical Sensitivity 600x:	27	counts/cubic meter	
	Analytical Sensitivity 300x *:	8*	counts/cubic meter	
	Skin Fragments:	1	1 to 4 (low to high)	
	Fibrous Particulate:	1	1 to 4 (low to high)	
	Background:	2	1 to 4 (low to high); 5 (overloaded)	

Initial report from: 09/27/2011 11:25:10

Bipolaris++ = Bipolaris/Dreschlera/Exserohilum

Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA

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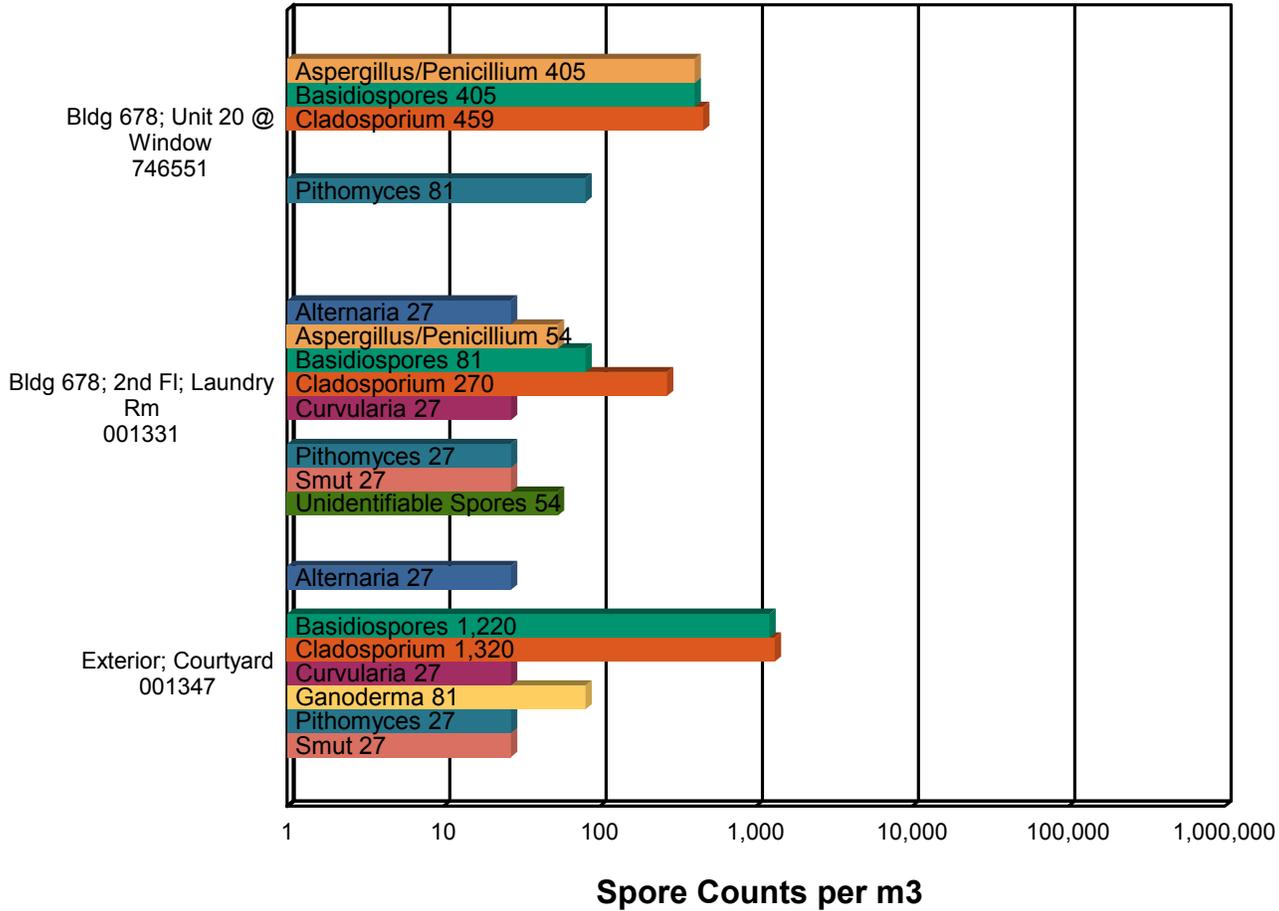
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Proj: Naval Station Newport; Building 678; Newport, RI

Spore Trap Report: Total Counts



* The chart is displayed using a logarithmic scale. Bar size is not directly proportional to the number of spores.

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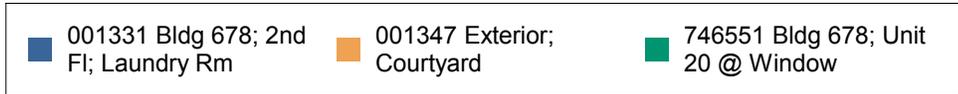
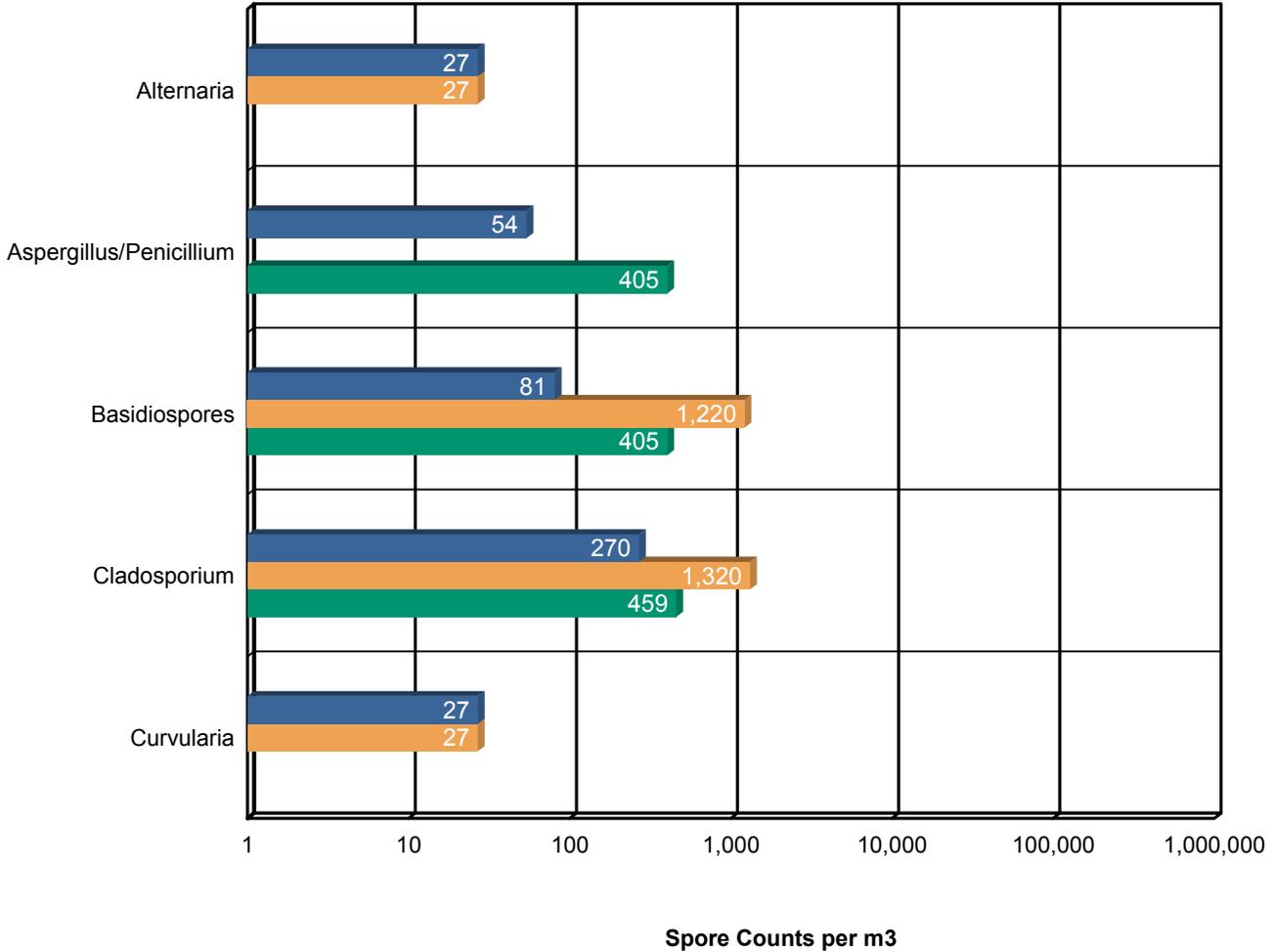
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Analyzed: 9/27/2011

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Background Comparison Chart



* The chart is displayed using a logarithmic scale. The bar size is not directly proportional to the number of spores.

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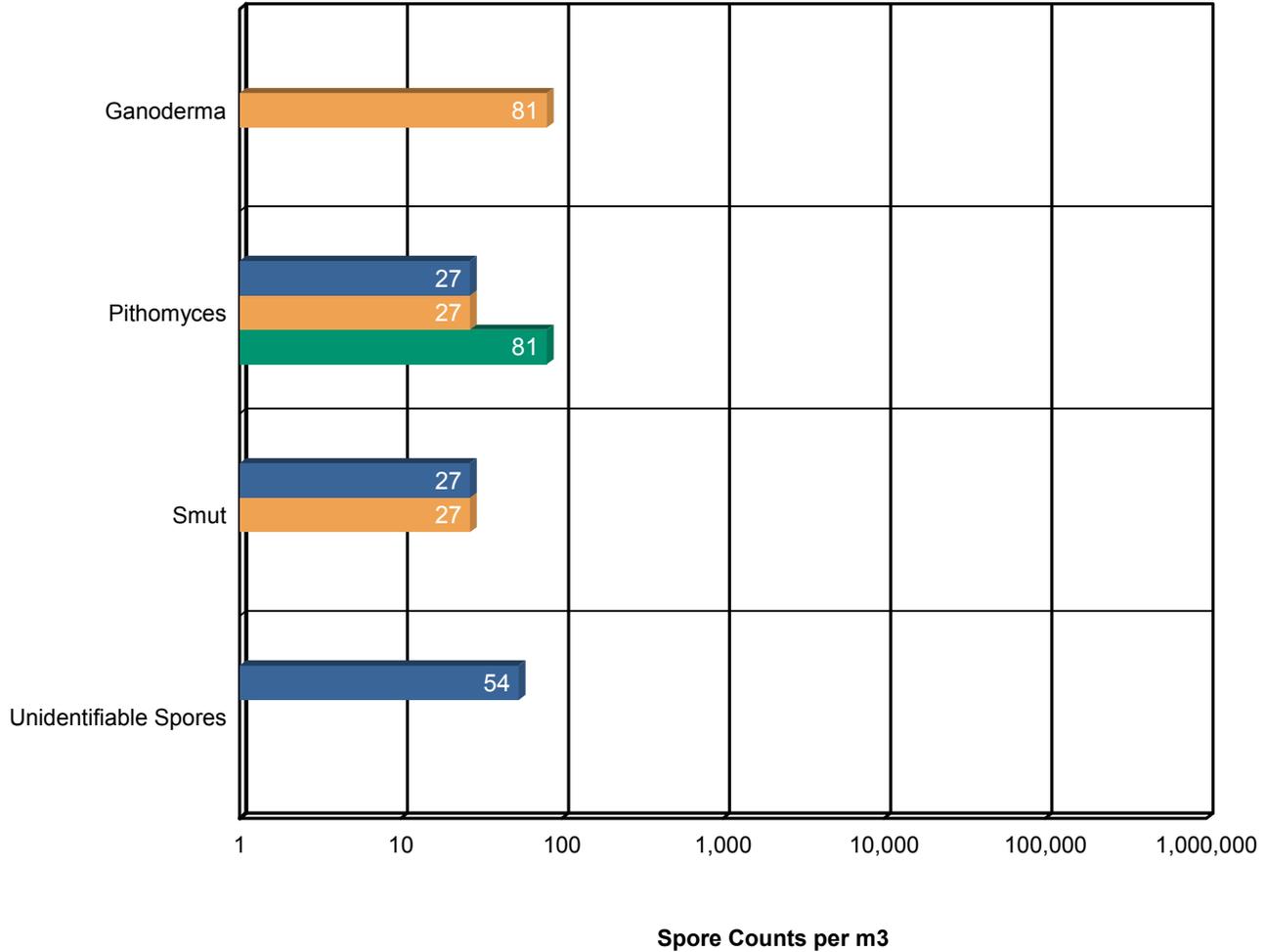
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EMSL Order: 131104523
Customer ID: AXIO80
Collected: 9/20/2011
Received: 9/20/2011
Analyzed: 9/27/2011

Proj: Naval Station Newport; Building 678; Newport, RI

Background Comparison Chart



■ 001331 Bldg 678; 2nd Fl; Laundry Rm	■ 001347 Exterior; Courtyard	■ 746551 Bldg 678; Unit 20 @ Window
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* The chart is displayed using a logarithmic scale. The bar size is not directly proportional to the number of spores.

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3. Understanding the Results

EMSL Analytical, Inc. is an independent laboratory, providing unbiased and scientifically valid results. These data represent only a portion of an overall IAQ investigation. Visual information and environmental conditions measured during the site assessment (humidity, moisture readings, etc.) are crucial to any final interpretation of the results. Many factors impact the final results; therefore, result interpretation should only be conducted by qualified individuals. The American Conference of Governmental Industrial Hygienists (ACGIH) has published a good reference book covering sampling and data interpretation. It is entitled, Bioaerosols: Assessment and Control, 1999.

Air Samples:

Air samples are typically evaluated by means of fungal type identified and by comparing indoor and outdoor concentrations, complaint to non-complaint areas, or area of concern to areas of non-concern. In general, the levels and types of fungi in the indoor air (in non-problem buildings) should be similar to or lower than those found in the outdoor air. Higher levels of spores (order of magnitude) found inside may indicate that moisture sources and resultant fungal growth are present. Spore count results are influenced by geographic location, seasonal and diurnal variation, and biotic/abiotic outside conditions. For example, fresh snow cover on the ground will affect the outdoor spore count concentration.

Use the following guidelines when interpreting the results:

1. The composition and diversity of fungi in indoor, non-problem buildings should be similar to that of the outdoor air.
2. Compare spore count concentrations indoors and outdoors. Elevated indoor concentrations may indicate indoor fungal growth. Be aware that this is not always consistent and additional sampling may be needed.
3. Certain fungi are very good indicators of water damage. The presence of these spores, even in small quantities, indicates the presence of water damage. These indicator fungi include, but are not limited to, *Chaetomium*, *Fusarium*, *Stachybotrys* (including *Memnoniella*), and *Ulocladium*.
4. Different types of fungi grow at different levels of biologically available water. These differences in fungal growth suggest the degree of water damage or saturation. For example, *Stachybotrys* is an indication of short term, severe, or prolonged water damage over time.

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Fungal spores are found everywhere. Whether or not symptoms develop in people exposed to fungi depends on the nature of the fungal material (e.g., allergenic, toxic, or infectious), the exposure level, and the susceptibility of exposed persons. Susceptibility varies with the genetic predisposition (e.g., allergic reactions do not always occur in all individuals), age, pre-existing medical conditions (e.g., diabetes, cancer, or chronic lung conditions), use of immunosuppressive drugs, and concurrent exposures. These reasons make it difficult to identify dose/response relationships that are required to establish "safe" or "unsafe" levels (i.e., permissible exposure limits).

It is generally accepted in the industry that indoor fungal growth is undesirable and inappropriate, necessitating removal or other appropriate remedial actions. The New York City guidelines and EPA guidelines for mold remediation in schools and commercial buildings define the conditions warranting mold remediation. Always remember that water is the key. Preventing water damage or water condensation will prevent mold growth.

This report is not intended to provide medical advice or advice concerning the relative safety of an occupied space. Always consult an occupational or environmental health physician who has experience addressing indoor air contaminants if you have any questions.



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4. Glossary of Fungi

ALTERNARIA	
Natural Habitat	Common saprobe and pathogen of plants. Typically found on plant tissue, decaying wood, and foods. Soil . Air outdoors.
Suitable Substrates in the Indoor Environment	Indoors near condensation (window frames, showers). House dust (in carpets, and air) Also colonizes building supplies, computer disks, cosmetics, leather, optical instruments, paper, sewage, stone monuments, textiles, wood pulp, and jet fuel
Water Activity	Aw =0.85-0.88
Mode of Dissemination	Wind
Allergic Potential	Type I allergies (hay fever, asthma), Type III (hypersensitivity pneumonitis)
Potential or Opportunistic Pathogens	Phaeohyphomycosis {causing cystic granulomas in the skin and subcutaneous tissue}. In immunocompetent patients, Alternaria colonizes the paranasal sinuses, leading to chronic hypertrophic sinusitis
Industrial Uses	Biocontrol of weed plants ·Biocontrol fungal plant pathogens.
Potential Toxins Produced	Alternariol (AOH) . Alternariol monomethylether (AME). Tenuazonic acid (TeA). Altenuene (ALT). Altertoxins (ATX)
Other Comments	Alternaria spores are one of the most common and potent indoor and outdoor airborne allergens. Additionally, Alternaria sensitization has been determined to be one of the most important factors in the onset of childhood asthma. Synergy with Cladosporium or Ulocladium may increase the severity of symptoms

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ASPERGILLUS/PENICILLIUM	
Natural Habitat	·Plant debris ·Seed ·Cereal crops
Suitable Substrates in the Indoor Environment	Grows on a wide range of substrates indoors ·Prevalent in water damaged buildings ·Foods (blue mold on cereals, fruits, vegetables, dried foods) ·House dust ·Fabrics ·Leather ·Wallpaper ·Wallpaper glue
Water Activity	Aw=0.75-0.94
Mode of Dissemination	Wind ·Insects
Allergic Potential	Type I (hay fever, asthma) ·Type III (hypersensitivity)
Potential or Opportunistic Pathogens	Possible depending on the species.
Industrial Uses	Many depending on the species
Potential Toxins Produced	Possible depending on the species.
Other Comments	Spores of Aspergillus and Penicillium (including others such as Acremonium and Paecilomyces) are small and spherical with few distinguishing characteristics. They cannot be differentiated or speciated by non-viable impaction sampling methods. Some species with very small spores may be undercounted in samples with high background debris.

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BASIDIOSPORES

Natural Habitat	Forest floors. Lawns .Plants (saprobies or pathogens depending on genus)
Suitable Substrates in the Indoor Environment	Depends on genus. Wood products
Water Activity	Unknown.
Mode of Dissemination	Forcible ejection. Wind currents.
Allergic Potential	Type I allergies (hay fever, asthma) . Type III (hypersensitivity pneumonitis)
Potential or Opportunistic Pathogens	Depends on genus.
Industrial Uses	Edible mushrooms are used in the food industry.
Potential Toxins Produced	Amanitins. monomethyl-hydrazine. muscarine. ibotenic acid. psilocybin.
Other Comments	Basidiospores are the result of sexual reproduction and formed on a structure called the basidium. Basidiospores belong to the members of the Phylum Basidiomycota, which includes mushrooms, shelf fungi, rusts, and smuts.

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CLADOSPORIUM

Natural Habitat	Dead plant matter. Straw. Soil. Woody plants
Suitable Substrates in the Indoor Environment	Fiberglass duct liner. Paint. Textiles. Found in high concentration in water-damaged building materials.
Water Activity	Aw 0.84-0.88
Mode of Dissemination	Air
Allergic Potential	Type I (asthma and hay fever).
Potential or Opportunistic Pathogens	Edema. keratitis. onychomycosis. pulmonary infections. Sinusitis.
Industrial Uses	Produces 10 antigens.
Potential Toxins Produced	Cladosporin and Emodin.

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GANODERMA	
Natural Habitat	Grows on conifers and hardwoods worldwide, causing white rot, root rot, and stem rot.
Suitable Substrates in the Indoor Environment	Unknown.
Water Activity	Unknown.
Mode of Dissemination	Wind.
Allergic Potential	Ganoderma species are known to cause allergies in people on a worldwide scale.
Potential or Opportunistic Pathogens	Unknown.
Industrial Uses	Biopulping of wood for the paper industry. Potential medicinal use due to: 1. Inhibition of Ras dependent cell transformation, 2. Antifibrotic activity, 3. Immunomodulating activity, 4. Free-radicle scavenging
Potential Toxins Produced	Unknown.
Other Comments	Used in traditional Chinese medicine as an herbal supplement. It is also known as a "shelf fungus" because the fruiting body forms a stalk-less shelf on the sides of trees and logs. It is sometimes called "artists conk" because when you scratch the white pores of the fruiting body, the white rubs away and exposes the brown hyphae underneath. Thus, pictures can be produced on the fruiting body.
Reference	References: Craig, R.L., Levetin, E. 2000. Multi-year study of Ganoderma aerobiology. <i>Aerobiologia</i> 16: 75-81. http://www.pfc.forestry.ca/diseases/CTD/Group/Heart/heart6_e.html

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PITHOMYCES

Natural Habitat	A worldwide saprophytic fungi, being isolated from dead plant material and soil.
Suitable Substrates in the Indoor Environment	Paper
Water Activity	Requires high moisture for spore germination
Mode of Dissemination	Wind
Allergic Potential	Unknown
Potential or Opportunistic Pathogens	Mycosis in immunocompromised patients
Industrial Uses	
Potential Toxins Produced	
Other Comments	
Reference	

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5. References and Informational Links

Books

- Bioaerosols: Assessment and Control. Janet Macher, Ed., American Conference of Governmental Industrial Hygienists, Cincinnati, OH 1999.
- Exposure Guidelines for Residential Indoor Air Quality. Environmental Health Directorate, Health Protection Branch, Health Canada, Ottawa, Ontario, 1989.
- Fungal Contamination in Public Buildings: Health Effects and Investigation Methods. Health Canada, Ottawa, Ontario, 2004.
- IICRC: S500 Standard and Reference Guide for Professional Water Damage Restoration. 3rd Edition, Institute of Inspection, Cleaning, and Restoration Certification, Vancouver, WA, 2006
- IICRC: S520 Standard and Reference Guide for Professional Mold Remediation. 1st Edition, Institute of Inspection, Cleaning, and Restoration Certification, Vancouver, WA, 2004
- Field Guide for the Determination of Biological Contaminants in Environmental Samples. 2nd Edition, American Industrial Hygiene Association, 2005.

Consumer Links

- Read the full text of AIHA's "The Facts About Mold" consumer brochure.
<http://www.aiha.org/news-pubs/newsroom/Documents/Facts%20about%20mold.pdf>
- The Occupational Safety and Health Administration (OSHA)
<http://www.osha.gov/SLTC/molds/index.html>
- CDC Mold Facts
<http://www.cdc.gov/mold/faqs.htm>
- CDC Stachybotrys - Questions and answers on Stachybotrys chartarum and other molds
<http://www.cdc.gov/mold/stachy.htm>
- IOM, NAS: Clearing the Air: Asthma and Indoor Air Exposures
<http://fermat.nap.edu/books/0309064961/html/index.html>
- National Library of Medicine-Mold website
<http://www.nlm.nih.gov/medlineplus/molds.html>
- California Department of Health Services (CADOHS)

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<http://www.cal-iaq.org/mold/about-mold>

- Minnesota Department of Health
<http://www.health.state.mn.us/divs/eh/indoorair/mold/index.html>
- New York City Department of Health and Mental Hygiene
<http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml>
- H.R.: The United States Toxic Mold Safety and Protection Act
http://conyers.house.gov/index.cfm?FuseAction=Issues.Home&Issue_id=061bf20d-19b9-b4b1-12a3-6089055e7c99

EPA

- "Should You Have the Air Ducts in Your Home Cleaned?"
<http://www.epa.gov/iaq/pubs/flood.html>
- General information about molds and actions that can be taken to clean up or prevent a mold problem.
<http://www.epa.gov/asthma/molds.html>
- "A Brief Guide to Mold, Moisture, and Your Home" - Includes basic information on mold, cleanup guidelines, and moisture and mold prevention.
<http://www.epa.gov/iaq/molds/moldguide.html>
- "Mold Remediation in Schools and Commercial Buildings" - Information on remediation in schools and commercial property, references for potential mold and moisture remediators.
http://www.epa.gov/mold/mold_remediation.html

FEMA

- "Homes That Were Flooded May Harbor Mold Problems" - Information and tips for cleaning mold.
<http://www.fema.gov/diz01/d1364n18.shtm>
- "Dealing With Mold & Mildew in Your Flood Damaged Home."
http://www.fema.gov/pdf/rebuild/recover/fema_mold_brochure_english.pdf
- "Prompt Flood Cleanup Can Help Prevent Health Problems" - How to clean up in-house

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mold problems (not large or serious exposures).

<http://www.fema.gov/news/newsrelease.fema?id=9538>

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6. Important Terms, Conditions, and Limitations

A. Sample Retention

Samples analyzed by EMSL will be retained for 60 days after analysis date. Storage beyond this period is available for a fee with written request prior to the initial 30 day period.

Samples containing hazardous/toxic substances which require special handling will be returned to the client immediately. EMSL reserves the right to charge a sample disposal fee or return samples to the client.

B. Change Orders and Cancellation

All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL is not responsible for holding times that are exceeded due to such changes.

C. Warranty

EMSL warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures and with reasonable care in accordance with applicable federal, state and local laws. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied. EMSL disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability.

D. Limits of Liability

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to insure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL, the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL be liable to a client or any third party, whether based upon theories

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of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder.

E. Indemnification

Client shall indemnify EMSL and its officers, directors and employees and hold each of them harmless for any liability, expense or cost, including reasonable attorney's fees, incurred by reason of any third party claim in connection with EMSL services, the test result data or its use by client

Appendix E

**Site Photographs
(As of September 15, 2011)**

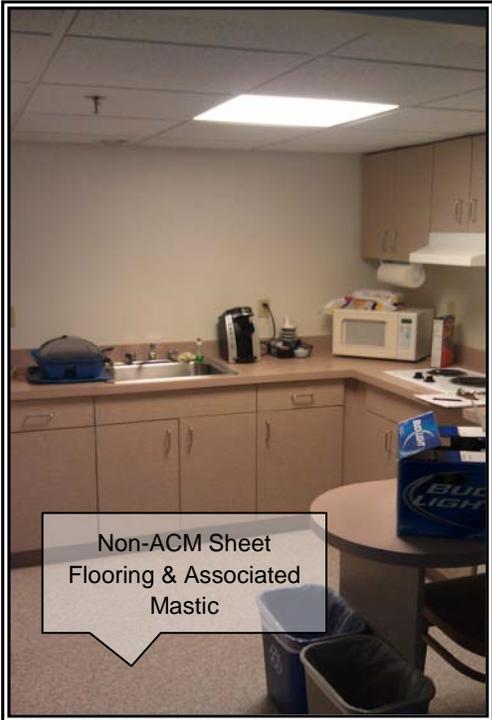
Appendix C
Site Photographs
(As of September, 15, 2011)



Building #678



Second Floor;
Hallway Utility Closet



Unit 28; Kitchen



Second Floor;
Laundry Room