



Wilcox & Barton INC.

ENVIRONMENTAL AND ENGINEERING SERVICES

HAZARDOUS MATERIALS SURVEY

**REPLACEMENT OF CONDENSATE PUMP STATIONS
(BUILDINGS 22 & 347)
PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE**

Prepared for:

Fay, Spofford & Thorndike, LLC
5 Burlington Woods
Burlington, Massachusetts 01803
Contact: Mr. Robert Njoroge, (781) 221-1021

Prepared by:

Wilcox & Barton, Inc.
57 Hoit Road
Concord, New Hampshire 03301
Contact: Mr. William R. Wilcox, (603) 369-4190 x501

June 23, 2014

Wilcox & Barton, Inc. Project No.: FST0046
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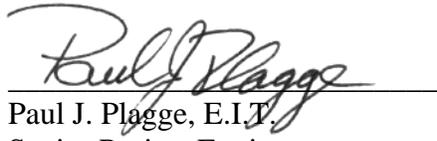
June 23, 2014

CERTIFICATION

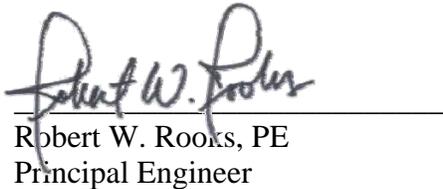
The following personnel have prepared and/or reviewed this report for accuracy, content, and quality of presentation.

Document Name: Hazardous Materials Survey
Replacement of Condensate Pump Stations (Buildings 22 & 347)
Portsmouth Naval Shipyard, Kittery, Maine

Date/Version: June 23, 2014



Paul J. Plagge, E.I.T.
Senior Project Engineer
Maine Asbestos Inspector #AI-0574



Robert W. Rooks, PE
Principal Engineer

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1.0 INTRODUCTION

Wilcox & Barton, Inc. has completed a hazardous materials survey of condensate pump stations adjacent to Buildings 22 and 347 at the Portsmouth Naval Shipyard (PNSY) in Kittery, Maine. The work was performed under contract to Fay, Spofford & Thorndike, LLC in accordance with Naval Facilities Engineering Command Contract No. N40085-09-D-9411, Task Order 0030.

The purpose of this work was to identify asbestos-containing materials (ACM), lead paint-coated surfaces, polychlorinated biphenyl- (PCB-) containing materials, and mercury-containing materials in support of the planned replacement of condensate pump stations in Buildings 22 and 347. In addition, a mold inspection was performed in Building 347. Other hazardous materials were specifically outside the scope of this survey. This survey is subject to certain limitations noted herein.

2.0 SITE DESCRIPTION

The two condensate pumping stations are part of the PNSY's main steam condensate return system. The Yard West condensate pump system is located inside the Controlled Industrial Area situated Building 347 at the head of dry dock #1. The Yard East condensate pump system is located adjacent to the east side of Building 22.

3.0 SITE INSPECTION

The hazardous materials survey was performed on June 13, 2014. A two-person field team performed the survey under the provisions of a job-specific Accident Prevention Plan and Activity Hazard Analysis approved prior to the start of work.

3.1 Asbestos-Containing Materials Survey

The asbestos-containing material survey was led by a trained and accredited inspector; a copy of the inspector certification is contained in Appendix A. Accessible portions of the condensate pump stations were inspected for suspect ACM. For each suspect ACM observed, the inspector described the material, assigned a unique identification number (homogenous material number), and recorded its location. Bulk samples of each suspect, distinct, homogenous material were collected in a random manner and submitted for laboratory analysis of asbestos. A homogenous material is defined as a building material used on similar building and utility components that is uniform in color and/or texture based on the inspector's judgment.

Sample locations are depicted on Figure 1A– *Hazardous Material Survey – Sample Location Plan – Bldg 22* and Figure 1B– *Hazardous Material Survey – Sample Location Plan – Bldg 347*. A total of six bulk samples representing six homogenous materials were submitted to ProScience Analytical Services, Inc. (ProScience) of Woburn, Massachusetts, for analysis by transmission electron microscopy (TEM). A copy of the laboratory certification for ProScience is presented in Appendix B.

A material is defined by the U.S. Environmental Protection Agency (EPA) as a regulated asbestos-containing material if it contains greater than one percent (>1%) asbestos based on laboratory analysis. A material can only be considered negative if analytical results from all bulk samples of an individual homogenous material indicate an asbestos content of less than 1%.

In addition to the six homogenous materials sampled, two additional homogenous materials (347-B006, Gaskets on Steam Piping and 347-B004, Transite Panels at Entrance) were not sampled and are assumed to contain asbestos. The Transite Panels at the entrance to the Building 347 pump station were labeled “Danger Contains Asbestos.”

Asbestos was either assumed or detected at concentrations of 1% or more in the following materials:

Summary of Asbestos Containing Materials

Asbestos Containing Material	Homogenous Material #	Location	Quantity	
			(English)	(Metric)
Transite Panels	347-B004	Entrance to Bldg 347	75 sf	7 m ²
Gaskets	347-B006	Steam Piping in Bldg 347	6 Each	

sf square feet
m² square meters

A summary of sample locations, descriptions, and laboratory analytical results is presented in Table 1 - *Asbestos Samples – Summary of Analytical Results*. Copies of laboratory reports are included in Appendix C.

3.2 Lead Paint Survey

Wilcox & Barton, Inc. performed a survey of painted surfaces in the pump stations. The location and general condition of each paint-coated surface was recorded. All paint systems were generally in poor condition. The predominant paint systems consisted of the following:

- Light grey over green on lower walls (Bldg 347)
- Light grey over white on ceiling (Bldg 347)
- Light grey over white on upper walls (Bldg 347)
- Light grey over orange on steel beams in ceiling (Bldg 347)
- Grey on piping in ceiling (Bldg 347)
- Yellow on ladder (Bldg 22)

A total of six bulk samples were collected from surfaces exhibiting unique paint systems and submitted to ProScience for laboratory analysis of lead by atomic absorption (AA) using Test Method SW846-7420/3051. A copy of the laboratory certification for ProScience is presented in Appendix B. Paint chip samples were collected at the locations depicted on Figures 1A and 1B.



Laboratory analysis revealed detectable concentrations of lead in all six of the paint systems. Paint containing lead at concentrations exceeding 0.5 % by weight is considered “lead-based paint” by both the US Environmental Protection Agency (EPA) and the US Department of Housing and Urban Development (HUD) definitions. The paint systems that exceeded the 0.5% threshold are shown in the following table.

Lead-Based Paint Systems (>0.5% by weight)

Description	Location	Lead Concentration (Weight %)
Light grey over green	Lower walls – Bldg 347	1.3
Light grey over orange	Steel beams in ceiling – Bldg 347	14

Paint containing lead at a concentration less than the EPA and HUD thresholds, but exceeding the Consumer Product Safety Commission threshold of 0.06% by weight is considered "lead-containing paint." For worker protection purposes under Occupational Safety and Health Administration (OSHA) rules, any amount of lead in paint poses a potential exposure risk. The following paint systems contained lead at a concentration below the 0.5% threshold but above the 0.06% threshold:

Lead-Containing Paint Systems (>0.06% and <0.5% by weight)

Description	Location	Lead Concentration (Weight %)
Light grey over white	Ceiling – Bldg 347	0.18
Light grey over white	Upper walls – Bldg 347	0.067
Grey	Piping in ceiling – Bldg 347	0.064

A copy of the laboratory report is included in Appendix C. Analytical results are summarized in Table 2 - *Lead Paint Samples – Summary of Analytical Results*.

3.3 PCB-Containing and Mercury-Containing Materials Survey

3.3.1 PCB-Containing Devices

Wilcox & Barton, Inc. visually inspected the area for the presence of potential PCB-containing materials. PCBs are a class of organic chemicals that were manufactured in the United States until the late 1970s and used in dielectric fluids for their insulation and heat transfer properties. PCBs were used in electrical transformers, capacitors, heat transfer equipment, light ballasts, and specialty paints. Electrical devices manufactured prior to 1978 are commonly assumed to contain PCBs, and most equipment manufactured after that time has a “PCB Free” or “No PCB” label.

Fluorescent lighting was observed in Building 347 pump station. Four ballasts were inspected and found to not contain a “PCB Free” or “No PCB” label. Therefore, the ballasts are presumed to be PCB-containing. No fluorescent lighting was observed in Building 22.

3.3.2 PCBs in Caulking and Paint

No caulking or sealants were observed during the inspection.

3.3.3 Mercury-Containing Devices/Lamps

Wilcox & Barton, Inc. visually inspected the pump stations for the presence of potential mercury-containing materials. Mercury is a heavy, shiny, silvery-white metal that is liquid at room temperature. Liquid mercury evaporates at room temperature, producing invisible, odorless vapors. Mercury is toxic at low exposure levels, and human exposure can result from inhalation of vapors, skin contact, and ingestion.

Mercury has numerous industrial uses. Common devices often containing mercury include 1) controls for the measurement of vacuum, pressure, fluid, temperature, or flow (thermostats, thermometers, manometers, etc.), 2) switches (in furnaces, gas regulators, sump pumps, appliances, HVAC equipment, etc.), and 3) light bulbs (fluorescent, neon, high intensity discharge).

During the inspection, Wilcox & Barton, Inc. observed seven potential mercury-containing fluorescent light tubes, one potential mercury-containing thermostat, and two emergency lights in Building 347 pump station.

Summary of Potential Mercury-Containing Devices/Lamps

Location	Fluorescents Tubes	Thermostats	Mercury Lamps	Switches
Building 347	7	1	2	0
Building 22	0	0	0	0

3.4 Mold Survey

On June 13, 2014, Wilcox & Barton, Inc. inspected Building 347 pump station for the presence of mold. Mold was observed on plywood on the northern wall of the pump station. In addition, excess moisture was present in the space, as evidenced by roof leaks, moisture infiltration through exterior walls, and condensation. The mold growth appeared black to dark brown in color. Mold samples were collected at the locations depicted on Figure 1B.

Two “tape-lift” samples were collected from the northern wall where mold growth was visible. The samples were analyzed by Covino Environmental Associates for mold and fungi identification. In the tape-lift technique, a strip of clear adhesive tape is pressed onto the suspect material, then immediately removed and applied to the inside of a clean zip-loc bag and sealed. The lift tapes are viewed under a microscope, where mold and fungi are identified by physical appearance.

Mold inspections can include air sampling when there is evidence of a health impact or a medical complaint. In the absence of such concerns, and particularly in vacant spaces, air sampling is of little value. When present, airborne mold spores will affect each individual uniquely, depending

on exposure and an individual's immunological status. Immuno-compromised people can be severely affected when healthy persons are not affected at all. There are no specific regulatory levels or health-based guidance values that can be used to assess the results. For these reasons, no air samples were collected as part of this investigation.

The mold genus *Aspergillus* was identified in the two samples. These findings are summarized in Table 3 - *Mold Samples – Summary of Analytical Results*. In addition to identification at the genus or species level, the laboratory results are reported in a semi-quantitative way to estimate the density of growth from the tape sample. The samples were reported as “moderate to heavy growth.”

Aspergillus species are filamentous fungi found ubiquitously in nature. They are commonly found in soil, plant debris, and in the indoor air environment. The genus includes over 185 species. Around 20 species have so far been reported as causative agents of opportunistic infections in humans. On the other hand, various species of *aspergillus* are quite beneficial. The presence of *Aspergillus* species is a general indicator of the presence of conditions conducive to mold growth.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are drawn from the findings of the survey.

4.1 Asbestos

In Building 347, asbestos was assumed to be present at a concentration of 1% or more in the gaskets on steam piping and transite panels at the entrance of the space. In Building 22, asbestos was not detected.

Any demolition or renovation that could disturb ACM must comply with state and federal environmental and safety standards. In accordance with 40 CFR Part 61, *National Emissions Standards for Hazardous Air Pollutants* (NESHAPs), a contractor conducting any demolition that will disturb regulated ACM must: (1) notify the EPA Administrator of such activities; (2) use proper removal procedures; (3) use proper engineering controls to limit emissions of asbestos fibers; and (4) utilize proper waste disposal. Also in accordance with NESHAPs, ACM that will be disturbed must be removed by a licensed asbestos abatement contractor prior to initiation of any building demolition or renovation activities. If any hidden and previously undetected suspect ACM is uncovered during demolition activities, work must be stopped and the material tested for asbestos content. All ACM must be disposed of in accordance with all applicable state and federal requirements.

Under OSHA regulations, any demolition or renovation to be performed at a structure where ACM is present must be performed in accordance with a worker protection policy, including, but not limited to, appropriate training, medical monitoring, respiratory protection, and other protective equipment.

Communication of hazards as specified in 29 CFR 1926.1101(k) requires that the facility owner provide notification of the presence, quantity, and location of ACM to people who may come in contact with the ACM during construction or renovation work. Warning signs are required to be posted at the entrance to mechanical rooms or immediately within if clearly noticeable. The signs will identify the ACM that is present, its location, and the proper work practices required to ensure that ACM is not disturbed. The signs must bear the following information:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

Labels must be affixed to thermal system insulation and surfacing materials containing asbestos equal to or greater than 1% and to all containers containing such products, including waste containers. Where feasible, installed asbestos products must contain a visible label. The label must contain the following information:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

4.2 Lead Paint

Lead was detected in the majority of the paint systems in the condensate pump stations. The presence of lead in paint requires that any renovation or demolition work be performed under the worker protection requirements outlined in 29 CFR 1926.62. During demolition or renovation, paint materials containing lead should not be sanded, scraped, drilled, or otherwise altered unless proper engineering controls are utilized to prevent migration of fugitive lead-containing dust from the work area. Under OSHA regulations, any demolition or renovation to be performed at a structure where lead in paint is present must be performed in accordance with a worker protection policy, including, but not limited to, appropriate training, medical monitoring, respiratory protection, and other protective equipment.

4.3 PCB-Containing and Mercury-Containing Materials

Wilcox & Barton, Inc. observed four potential PCB-containing light ballasts in Building 347. PCB-containing materials must be handled, managed, and disposed of in accordance with all federal and state regulatory requirements.

Wilcox & Barton, Inc. observed seven potential mercury-containing fluorescent light tubes, two potential mercury-containing lamps, and one potential mercury-containing thermostat in Building 347.

Mercury-containing materials must be handled, managed, and disposed of in accordance with applicable federal and state regulatory requirements. These items should be removed prior to commencement of renovation work if they are not to be re-used.

4.4 Mold

Visible mold is present within Building 347, primarily on the northern wall of the structure. The mold was determined to be *Aspergillus*, a very common genus. All molds have the potential to cause health effects.

Mold identified within Building 347 should be remediated in accordance with the EPA *Mold Remediation in Schools and Commercial Buildings* (EPA 402-K-01-001). Remediation may involve a variety of abatement methods based on the impacted material, including cleaning with a biocide, high-efficiency particulate air vacuuming, removal of impacted materials, and worker protection practices. Mold remediation should be performed in conjunction with elimination of moisture problems within the building in order to be effective.

5.0 LIMITATIONS AND RESTRICTIONS

This hazardous materials survey was restricted to observations made by Wilcox & Barton, Inc. during inspection of the facility. The results of this report do not guarantee that all ACM, lead paint, or other hazardous materials have been located or identified for the following reasons:

1. Each suspect or confirmed ACM and paint system was assumed to be homogenous. The possibility exists that the composition of materials that appear homogenous may differ from one location to another.
2. Suspect ACM or painted surfaces may be hidden within or behind internal structural components not accessible unless substantial demolition of building structures is performed.
3. The inspection did not access enclosed spaces to observe hidden ACM or mold growth. It is likely that mold will be discovered on the inside (enclosed) surfaces of materials that show obvious signs of mold growth on the exterior.

Within the limitations mentioned above, this project has been undertaken and performed in a professional manner, in accordance with generally accepted practices, and using the degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances.

TABLES

TABLE 1
Asbestos Samples - Summary of Analytical Results
Hazardous Materials Survey
Replacement of Condensate Pump Stations (Buildings 22 & 347)
PNSY, Kittery, Maine

Material ID#	Homogenous Material	Sample #	Functional Space/ Sample Location	Date Sampled	PLM Results	TEM-NOB Results
Building 347						
347-B001	Light Grey Over Green Paint	347-B001	Lower Walls, Bldg 347	06/13/14	--	ND
347-B002	Light Grey Over White Paint	347-B002	Ceiling, Bldg 347	06/13/14	--	ND
347-B003	Light Grey Over White Paint	347-B003	Upper Walls, Bldg 347	06/13/14	--	ND
347-B005	Light Grey Over Orange Paint	347-B005	Steel Beams Ceiling, Bldg 347	06/13/14	--	ND
Building 22						
22-B001	White Insulation Wrap	22-B001	4" Diameter Pipe, Bldg 22	06/13/14	--	ND
22-B002	White Insulation Wrap	22-B002	8" Diameter Pipe, Bldg 22	06/13/14	--	ND

Notes:

PLM Polarized Light Microscopy
NOB Non Friable Organic Bound
ND Not Detected
-- Not Analyzed



TABLE 2
Lead Paint Samples - Summary of Analytical Results
 Hazardous Materials Survey
 Replacement of Condensate Pump Stations (Building 22 & 347)
 PSNY, Kittery, Maine

Sample #	Paint System	Sample Location	Date Sampled	Lead Concentration ¹ (% weight)
Building 347				
347-LBP-1	Light Grey Over Green Paint	Lower Walls, Bldg 347	06/13/14	1.3
347-LBP-2	Light Grey Over White Paint	Ceiling, Bldg 347	06/13/14	0.18
347-LBP-3	Light Grey Over White Paint	Upper Walls, Bldg 347	06/13/14	0.067
347-LBP-4	Light Grey Over Orange Paint	Steel Beams Ceiling, Bldg 347	06/13/14	14
347-LBP-5	Grey Paint	Piping in Ceiling, Bldg 347	06/13/14	0.064
Building 22				
22-LBP-1	Yellow Paint	Ladder, Bldg 22	06/13/14	0.013

Notes:

- Analyzed by EPA Method SW846-7420-3051 and reported on an "as received" wet weight basis.
 "Lead-based paint" is defined by EPA/HUD as a lead concentration in paint >0.5% by weight.

TABLE 3
Mold Samples - Summary of Analytical Results
 Hazardous Materials Survey
 Replacement of Condensate Pump Stations (Buildings 22 & 347)
 PNSY, Kittery, Maine

Mold Sample #	Sample Location	Fungal Growth	Growth Rating ¹	Miscellaneous Spores/Pollen ²	Debris Loading ³
347-M-01	Plywood on North Wall, Bldg 347	Aspergillus	4+	None	Low Debris
347-M-02	Plywood on North Wall, Bldg 347	Aspergillus	3+	None	Low Debris

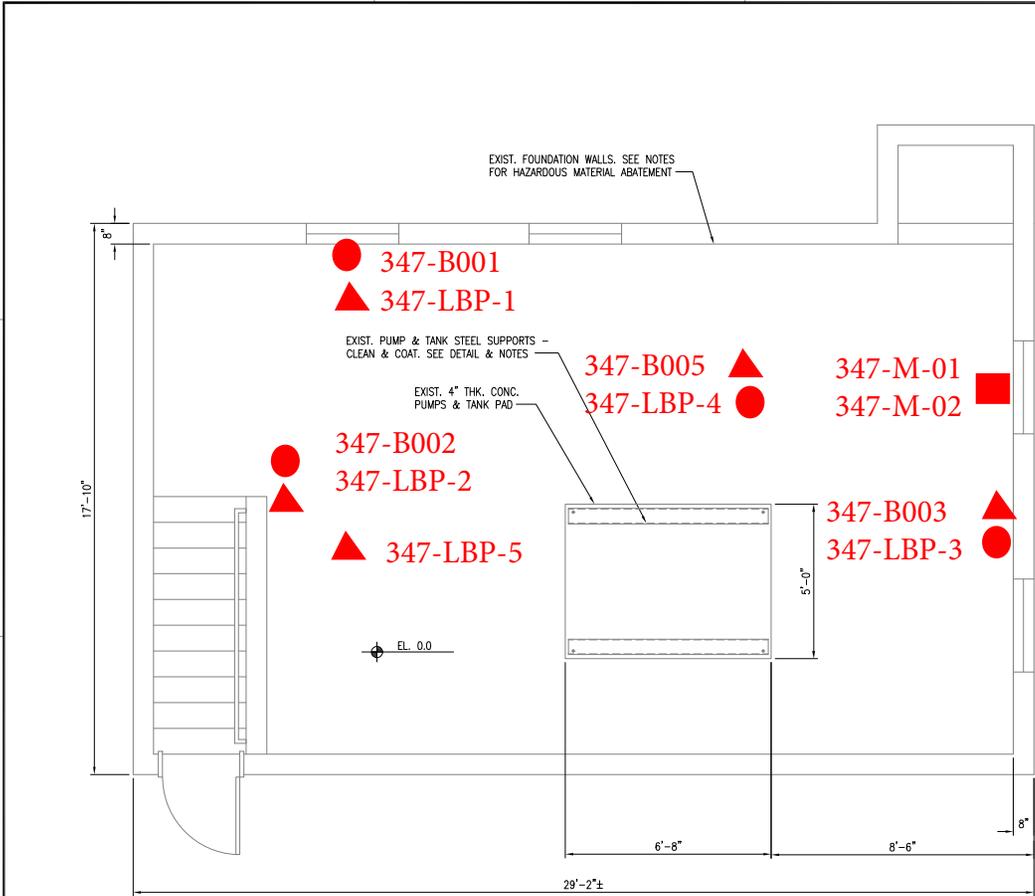
Notes:

- 1 Growth Rating is the amount of fungal growth and can be from 1+ (scattered hyphae, with or without spores) to 4+ (extensive hyphae, spores and spore producing structures).
- 2 Miscellaneous Spores are spores observed without associated growth, and may be due to settling or accumulation and may not indicate fungal growth.
- 3 Debris Loading is the amount of non-fungal particulate, which can mask fungal structures and cause low counts. Debris Loading is rated as "low" (<25% of slide covered; the actual fungal count may be slightly higher than reported).



FIGURES

FILE NAME: I:\NAV-2014 - Main\000\Building\03_Structural\03-307NA-5-102.dwg LAYOUT NAME: S-102 PLOTTED: Thursday, May 22, 2014 - 13:37pm USER: FRANK_J



FLOOR PLAN
SCALE: 1/2" = 1'-0"

HAZARDOUS MATERIALS SURVEY LEGEND

- 347-B001 ASBESTOS BULK SAMPLE
- ▲ 347-LBP-1 PAINT BULK SAMPLE
- 347-M-01 MOLD BULK SAMPLE

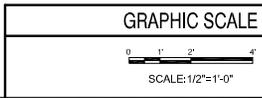
NOTES:

1. REFER TO STRUCTURAL NOTES DRAWING, S-001 FOR STRUCTURAL STEEL SURFACE PREPARATION & COATING REQUIREMENTS.
2. HAZARDOUS MATERIAL ABATEMENT: THE FOLLOWING ELEMENTS ARE CONSIDERED TO CONTAIN HAZARDOUS MATERIALS:
 - 50 SQUARE FT OF EXISTING SOUTH WALL BOARD - ASBESTOS
 - ALL EXISTING INTERNAL WALLS - LEAD
 - 70 SQUARE FT SECTION OF EXISTING STAIRWAY WALL - MOLD
3. A CERTIFIED INDUSTRIAL HYGIENIST SHALL CREATE HAZARD ABATEMENT PLANS FOR EACH HAZARDOUS MATERIAL, WHICH SHALL BE ABATED IN ACCORDANCE WITH SPECIFIC HAZARD ABATEMENT PLANS, ALL STATE AND LOCAL LAWS, AND PORTSMOUTH NAVAL SHIPYARD REQUIREMENTS. REFER TO PROJECT SPECIFICATIONS FOR APPROPRIATE DISPOSAL METHODS.



EXIST. TANK STEEL SUPPORTS. CLEAN & COAT. SEE NOTES

TANK SUPPORTS
SCALE: NOT TO SCALE



50% SUBMISSION	DATE	
<small>PROVIDED BY THE NAVAL SHIPYARD</small>		
<small>APPD</small>		
<small>FOR COMMANDER USE</small>		
<small>DATE</small>		
<small>DESIGN TO USE</small>		
<small>USE: RGN [] DWG RGN [] CHK VMD</small>		
<small>PROJ-NO: 347/P2 P: STOCKLESS</small>		
<small>BRANCH NUMBER</small>		
<small>DATE ENG/ARCH</small>		
<small>FILE PROJECT</small>		
<small>NAVAL FACILITIES ENGINEERING COMMAND</small>		
<small>NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC</small>		
<small>PLANT WORKS DEPARTMENT - NAVAL SHIPYARD - PORTSMOUTH, MA</small>		
<small>PORTSMOUTH NAVAL SHIPYARD</small>		
<small>REPLACE CONDENSATE PUMP STATIONS</small>		
<small>BUILDINGS 22 & 347</small>		
<small>FLOOR PLAN AND TANK SUPPORTS BUILDING 347</small>		
<small>MAINTENANCE NO. XXXX</small>		
<small>PROJECT NO. XXXX</small>		
<small>CONTROL CONTROL NO.</small>		
<small>NAVFAC DRAWING NO. XXX</small>		
<small>SHEET 7 OF 24</small>		
<small>S-102 XXX</small>		

Figure 1B Hazardous Materials Survey - Sample Locations - Bldg 347

Appendix A
Inspector Certification



State of Maine
Asbestos Abatement Program

Paul J. Plagge



Inspector

Cert No. AI-0574

Trn.Exp.Date 04/04/2015

Expiration Date 04/30/2015

This is not a legal form of official identification



Appendix B
Laboratory Certifications





AIHA Laboratory Accreditation Programs, LLC

acknowledges that

ProScience Analytical Services, Inc.

22 Cummings Park, Woburn, MA 01801-2122

Laboratory ID: 102754

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

- | | |
|--------------------------------------------------------|-----------------------------------|
| <input type="checkbox"/> INDUSTRIAL HYGIENE | Accreditation Expires: |
| <input checked="" type="checkbox"/> ENVIRONMENTAL LEAD | Accreditation Expires: 05/01/2016 |
| <input type="checkbox"/> ENVIRONMENTAL MICROBIOLOGY | Accreditation Expires: |
| <input type="checkbox"/> FOOD | Accreditation Expires: |
| <input type="checkbox"/> UNIQUE SCOPES | Accreditation Expires: |

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Gerald Schultz, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 14: 03/26/2014

Date Issued: 05/30/2014



State of Maine
Department of Environmental Protection

LICENSE

ProScience Analytical Services, Inc.

Asbestos Analytical Laboratory
(Air)

License Number: **LA-0056**

Expiration Date: **05/31/2015**



State of Maine
Department of Environmental Protection

LICENSE

ProScience Analytical Services, Inc.

Asbestos Analytical Laboratory
(Bulk)

License Number: LB-0055

Expiration Date: 05/31/2015

Appendix C
Laboratory Reports





ProScience Analytical Services, Inc

Paul Plagge
Wilcox & Barton, Inc., NH
P.O. Box 1630
Derry, NH 03038

June 17, 2014

Dear Paul Plagge,

Results of samples you described and submitted to ProScience Analytical Services, Inc. are shown on the enclosed data sheets. The analytical results in this report apply to the items tested only.

The listed samples were prepared and analyzed in compliance with the New York State Transmission Electron Microscope Method for Identifying and Quantitating Asbestos in Non-Friable Organically Bound Bulk Samples. This method is used for the determination of weight percent of asbestos in non-friable materials.

The sample is processed to remove non-asbestos interference. The remaining residue is examined using a Philips 300 transmission electron microscope equipped with selected area electron diffraction (SAED) and an Evex energy dispersive x-ray analyzer.

The following are reported: identification numbers, type of material, color of the sample, initial weight of the sample, weight percent of organic material lost by ashing, weight percent of carbonates lost by acid dissolution, weight percent of non-fibrous/non asbestos inorganic material, total weight percent of asbestos in the original sample, and the type(s) of asbestos, if any.

The EPA recognizes asbestos as the following: actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite. To be considered asbestos containing, a material must be determined to contain greater than one percent asbestos. Samples are retained for a period of 2 months.

The quality control data related to the samples analyzed are available for review upon the written request of the client. ProScience Analytical Services, Inc. and its personnel assume no responsibility for potential sample contamination, misuse, misinformation, or misrepresentation by the client. The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

This report may not be reproduced, except in its entirety, without permission of the ProScience Analytical Services, Inc. Laboratory Director.

Please contact me if you have any questions regarding this report or related information.

Sincerely,

Mark Derosier, Senior Analyst
Aimee Cormier, Laboratory Manager

Enclosure:

BATCH NUMBER : NT 14546 CLIENT PROJECT ID: FST0046
Client Ref: Condensate Pump Replacement, PNSY
NVLAP Lab Code 200090-0; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056;
AIHA ID# 102754; VT ID# AL016876; PH ID# 218(TEM,PLM); RI ID# 186.

ProScience Analytical Services, Inc.

22 Cummings Park, Woburn, Massachusetts 01801
781-935-3212 ~ Fax: 781-932-4857 ~ E-Mail general@proscience.net

Laboratory Report

Client Project #: FST0046
Client Reference: Condensate Pump Replacement, PNSY
PO #: N/A
Client #: 929
Client Name: Wilcox & Barton, Inc., NH

Batch: NT 14546
Method: NOB
Date Received: 6/13/2014
Date Analyzed: 6/17/2014
Date of Report: 6/17/2014

LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types						% Other Non-asb.	% Organic	% Carb.	Total % Asbestos	Analyzed / Charged	Preped / Charged
					CHR	AMO	ACT	CRO	ANT	TRE						
NT110218	347-B001	Light Grey over Green Paint, Lower Walls		.2373	.00	.00	.00	.00	.00	.00	46.98	33.97	19.05	ND	Yes	No
NT110219	347-B002	Light Grey over White Paint, Ceiling		.4921	.00	.00	.00	.00	.00	.00	40.05	38.63	21.32	ND	Yes	No
NT110220	347-B003	Light Grey over White Paint, Upper Walls		.4320	.00	.00	.00	.00	.00	.00	38.49	16.37	45.14	ND	Yes	No
NT110221	347-B005	Light Grey over Orange Paint, Steel Beams Ceiling		.7250	.00	.00	.00	.00	.00	.00	41.21	31.56	27.23	ND	Yes	No
NT110222	22-B001	White Insulation Wrap, 4" Diameter Pipe		.1061	.00	.00	.00	.00	.00	.00	86.33	5.28	8.39	ND	Yes	No
NT110223	22-B002	White Insulation Wrap, 8" Diameter Pipe		.1257	.00	.00	.00	.00	.00	.00	51.63	15.35	33.02	ND	Yes	No

Comments:

Key: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite TR = Trace = < 1% ND = None Detected


Mark Derosier, Analyst

ProScience Analytical Services, Inc.

www.proscience.net

22 Cummings Park, Woburn, MA 01801 T: 781-935-3212 F: 781-932-4857 general@proscience.net

TAT(Circle)

Rush 12h 24h 48h 3d 4d 5d Other

TEM

Chain of Custody

ver 3.1 Updated 7/11/11

Off-hours work is available but subject to PASI approval and surcharges.

PASI Batch #

NT 14546

Client	Name	Wilcox & Barton, Inc.
	Address	57 Hoit Road, Concord, NH 03301
	Job #	FST0046
	Job Name	Condensate Pump Replacement, PNSY
	PO #	

Results

Tel	Fax	Email	HC
		X	

Final Report

Email	Hard Copy
X	

Analysis	Air	Water	Bulk	
	ASHERA Clearance Set	Drinking (EPA 100.2)	NOB	
ASHERA Method (no set)	Waste (EPA 100.1)	Qualitative		
NIOSH 7402 (PCM Equiv.)	Dust		Soil	
ISO 10312 (direct)	ASTM D6480	Stop 1st Pos		
ISO 13794 (indirect)	ASTM D5755	Other in Comments		

Contact	Name	Paul Plagge	
	Phone/Fax	(603) 369-4190	x506
	Email	pplagge@wilcoxandbarton.com	

Relinquished By

Received By

Relinquished By

Received By

Date / Time

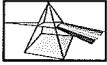
Date / Time

Date / Time

Date / Time

Paul Plagge
[Signature]
6/13/14
6/13/14 @ 12:20pm

Sample ID	Description	Type In, Out, Blk, Pnl, Area	Location / Date & Time Collected	Volume or Area	Comments
347-B001	Lt. Grey Over Green Paint		Lower Walls 6/13/14		
347-B002	Lt. Grey Over White Paint		Ceiling 6/13/14		
347-B003	Lt. Grey Over White Paint		Upper Walls 6/13/14		
347-B003	Lt. Grey Over Orange Paint		Steel Beams Ceiling 6/13/14		
22-B001	White Insulation Wrap		4" diameter Pipe 6/13/14		
22-B002	White Insulation Wrap		8" diameter Pipe 6/13/14		



ProScience Analytical Services, Inc.
 22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212
 Facsimile: 781-932-4857
 Email: chemistry@proscience.net

Laboratory Report

Contact: Paul Plagge
Client: Wilcox & Barton, Inc.
Address: 57 Hoit Road
 Concord, NH 03301

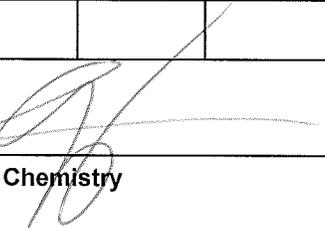
Batch #: C 279692
Date received: 6/13/2014
Date analyzed: 6/16/2014
Date of report: 6/17/2014

Project # FST0046
P.O.# N/A
Project Site: Condensate Pump Replacement,PNSY

AIHA-LAP, LLC Lab ID 102754

Lead Analysis In Paint Using SOP Based on SW846-7420/3051
 Results in weight percent on an "as received" weight basis

Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 492414	347-LP-01	6/13/14	Lt. Gray Over Green Paint Lower Walls	1.3	0.013	
C 492415	347-LP-02	6/13/14	Lt. Gray Over White Paint Ceiling	0.18	0.027	
C 492416	347-LP-03	6/13/14	Lt. Gray Over White Paint Upper Walls	0.067	0.013	
C 492417	347-LP-04	6/13/14	Lt. Gray Over Orange Paint Steel Beams Ceiling	14	0.015	
C 492418	347-LP-05	6/13/14	Gray Paint Piping	0.064	0.010	
C 492419	22-LP-01	6/13/14	Yellow Paint Ladder	0.013	0.011	



Simona Peavey, Tech. Manager Chemistry
Aimee Cormier, Lab Director

Page 1 of 1

Unless otherwise indicated, all samples were received in acceptable condition.

All result apply only to the samples as received and are accurate to no more than two significant figures.

Unless otherwise indicated, all the quality control criteria for the method above have been met.

RL-Reporting Limit(%by weight)

Note on units: mg/Kg is the same as ppm by weight.

ProScience Analytical Services, Inc.
Chemistry Chain of Custody Record

LABORATORY/HEADQUARTERS

22 Cummings Park, Woburn, MA 01801
 T:781-935-3212 F:781-932-4857

CONSULTING SERVICES

683 North Mountain Rd., Newington, CT 06111
 T:860-953-1022 F: 860-953-1030

Rush/<6 Hours

Turn Around Time Requested (circle)

Same Day

Next Day

2 Day

3 Day

5 Days

Client:

Wilcox & Barton, Inc.

NELAC analysis

Element gravimetric

Address: Street 57 Hoit Road

Town Concord State/Zip NH 03301

TYPE OF ANALYSIS (circle)

Pb Cd Cr As
 Se Ag Ba Hg

For Laboratory Use

Project Site Line 1 Condensate Pump Replacement, PNSY Project Number FST0046

DUST WIPES	<input checked="" type="radio"/> PAINT (0.1 g)	SOIL (1 g)
AIR	TSP	TCLP (100g)
(min)	PM10	Other

Other (please specify under Comments)

BATCH NUMBER

Contact: Paul Plagge Phone (603) 369-4190 x506 FAX Alt/Pager (978) 618-4558

QC

C 279691

ASTM E1792

FOR LABORATORY USE ONLY

Date and Time Sampled	Field I.D.	Sample Description/Location	Air Sampling Information					Wiped area			ANALYSIS			Lab I.D.		
			Start Time	End Time	Start Flowrate	End Flowrate	Volume (liters)	length (inch)	width (inch)	Area (sq in)	Weight (grams)	Dil'n	AA Reading		RESULT	
6/13/14	347-LP-01	Lt. Grey over Green Paint Lower Walls														492407
6/13/14	347-LP-02	Lt Grey over White Paint Ceiling														0815
6/13/14	347-LP-03	Lt. Grey over White Paint Upper Walls														0916
6/13/14	347-LP-04	Lt. Grey over Orange Paint Steel Beams Ceiling														1017
6/13/14	347-LP-05	Grey Paint piping														1118
6/13/14	22-LP-01	Yellow Paint Ladder														1219

Relinquished By: Paul Plagge

Date: 6/13/14

Time:

Received By: [Signature]

Date: 6-13-14

Time: 12:20pm

Comments:

PAGE OF

ver 4.8

For complete information about our services and locations please visit us at www.proscience.net or call us at the numbers above.



300 Wildwood Avenue • Woburn, Massachusetts 01801
Tel: 781.933.2555 • Fax: 781.932.9402 • email: mail@covinoinc.com

June 17, 2014

Ms. Stefanie Bishop
ProScience Analytical Services, Inc.
22 Cummings Park
Woburn, MA

Ref: Project No: 14.00036
S00702, Wilcox & Barton, Inc.
Job No. FST0046, Condensate Pump Replacement, PNSY

Dear Ms. Bishop:

On June 13, 2014, you submitted two (2) tape lift samples from the above referenced location to Covino Environmental Associates, Inc. for subsequent analysis to determine mold spore growth and concentration.

Covino's laboratory, located in Woburn, Massachusetts, performed analysis using direct microscopic examination.

Copies of the laboratory analytical report are attached. If you have any questions or if you need additional information, please do not hesitate to call us at 781-933-2555.

Sincerely,
Covino Environmental Associates, Inc.

A handwritten signature in black ink, appearing to read "Ramon Buenaventura", with a long horizontal flourish extending to the right.

Ramon Buenaventura
Laboratory Analyst

Enclosed please find the report of analyses of tape lift/bulk samples for fungal contamination. These samples were analyzed by direct microscopic examination in accordance with generally accepted industry practices. This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this or other sites. The Covino laboratory did not collect these samples for this project and does not provide interpretation of the data.

Tape lift samples are generally intended for qualitative evaluation of test surfaces to determine the presence or absence of fungal contamination. Samples are analyzed using bright field microscopy at 200x, 400x, 600x and/or 1000x magnification. Bulk sample analysis is used to confirm visible fungal growth on a suspect source material. Initial examination of the material is performed using a stereo microscope prior to examination using bright field microscopy as described above.

Covino Laboratory hereby represents and warrants that it is qualified and experienced, and that its personnel have the necessary training and expertise to perform these laboratory analytical services with the degree of care and skill that generally is exercised by members of this profession. The results are reported without any other warranty, expressed or implied.

All samples are stored at the Covino laboratory for a period 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 its entirety, without permission of the Covino Environmental Associates, Inc. laboratory director or one of the laboratory signatories.

Covino Environmental Associates, Inc.
300 Wildwood Ave., Woburn, MA 01801

TAPE/BULK SAMPLE ANALYSES
Direct Microscopic Examination

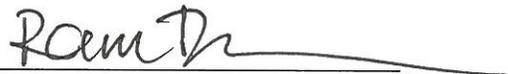
www.covinoinc.com
781-933-2555

Client: Wilcox & Barton, Inc. (Proscience S00702)

Job site: Condensate Pump Replacement, PNSY
Client contact: Paul Plagge
Covino contact: Ramon Buenaventura

Covino project: 14.00036
Date collected: 6/13/2014
Date received: 6/13/2014

Sample Field ID Sample Lab ID Sample Type Date Analyzed Analyst	Location/Substrate	Fungal Growth	Growth Rating ¹	General Growth Assessment	Miscellaneous Spores/ Pollen ²	No. Observed ³	Debris Loading, ⁴ Other Comments
347-M-01 25677 Tape 6/17/2014 Ramon Buenaventura	Plywood on north wall	<i>Aspergillus</i>	4+	Heavy fungal growth	None		Low debris.
347-M-02 25678 Tape 6/17/2014 Ramon Buenaventura	Plywood on north wall	<i>Aspergillus</i>	3+	Moderate fungal growth	None		Low debris.

Laboratory representative: 

Notes:

1. Growth Rating is the amount of fungal growth and can be from 1+ (scattered hyphae, with or without spores) to 4+ (extensive hyphae, spores and spore-producing structures).
2. Miscellaneous Spores are spores observed without associated growth and may be due to settling or accumulation and may not indicate fungal growth.
3. Number Observed is an indication only of the relative numbers of spores of different types, not of the total number of spores in the sample.
4. Debris Loading is the amount of non-fungal particulate, which can mask fungal structures and cause low counts. Debris Loading is rated as "low" (<25% of slide covered; the actual fungal count may be slightly higher than reported), "moderate" (25-75% of slide covered, actual count may be up to 4 times higher) or "heavy" (>75% of slide covered, actual count may be 4 to 10 times higher).
5. Samples are retained by the Covino Laboratory for a period of 3 months. Further analysis or return of samples must be requested within this period to guarantee availability.

Microbiology

Chain of Custody
 ver 3.2 Updated 7/11/11

Batch #
500702

Client	Name	Wilcox & Barton, Inc.
	Address	57 Hoit Road, Concord, NH 03301
	Job #	FST0046
	Job Name	Condensate Pump Replacement, PNSY
	PO#	

Results			
Tel	Fax	Email	HC

Final Report	
Email	Hard Copy

Air	TapeLift	Bulk
Spore Trap M001a,b	Direct Optical M003a	Direct Optical M002
Spore Trap with Particles Supplement M001a,b	Swab	
	Direct Optical M003b	Culturable M005
Culturable M004	Culturable M006	Other in Comments

Contact	Name	Paul Plagge	
	Phone/Fax	(603) 369-4190 x506	
	Email	pplagge@wilcoxandbarton.com	

Relinquished By Paul Plagge Date / Time 6/13/14
 Received By [Signature] Date / Time 6.13.14 @ 12:20pm
 Relinquished By _____ Date / Time _____
 Received By _____ Date / Time _____

Client Sample ID	Description	Location / Date & Time Collected	Volume or Area	Lab Sample ID (Lab use only)
347-M-01	Dark Brown Mold	Plywood on North Wall		25677
347-M-02	Dark Brown Mold	Plywood on North Wall		25678

Comments:

Off-hours work is available subject to PASI approval and surcharges.



ProScience Analytical Services, Inc.
 22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212
 Facsimile: 781-932-4857
 Email: general@proscience.net

CHAIN OF CUSTODY S00702

From: ProScience Analytical Services, Inc.

To: Covino

Contact person: Kevin McKenzie

Project information: FST0046, Condensate Pump Replacement, PNSY

Analysis required: Mold

Number of samples: 2

Turn-around time: 48 hrs

Due date: 6-17-2014 _____ Final report by: _____

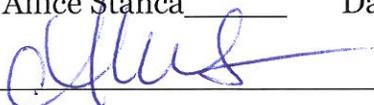
Results to: __see below _____ Contact person: _____

Please email report to general@proscience.net &

Stefanie.bishop@proscience.net & alice.stanca@proscience.net

Special instructions: Wilcox & Barton _____

Relinquished by: Alice Stanca _____ Date: 6-13-2014 Time: _____

Signature: 

Received by: _____ Date: 6-13-2014 Time: _____

Signature: _____

Please send back the original C.O.C. with the final report.