

**Tighe&Bond**

Portsmouth Naval Shipyard  
Seavey Island  
Kittery, ME

## **Hazardous Building Material Assessment**

Prepared For:

**Naval Facilities Engineering  
Command (NAVFAC)  
Portsmouth Naval Shipyard  
Kittery, ME 03904**

July 2015



10-1066-5  
June 22, 2015

Naval Facilities Engineering Command (NAVFAC)  
Portsmouth Naval Shipyard  
Kittery, ME 03904

Re: **Hazardous Building Materials Assessment  
Portsmouth Naval Shipyard  
Kittery, ME 03904**

To Whom It May Concern,

Tighe & Bond conducted a pre-renovation hazardous building materials assessment (HBMA) at select areas of various building at the Portsmouth Naval Shipyard. The building evaluated as part of this HBMA are as follows:

- Building 13<sup>(1)</sup>
- Building 14
- Building 18
- Building 22
- Building 27
- Building 29
- Building 31
- Building 44
- Building 59
- Building 79
- Building 86<sup>(1)</sup>
- Building 153
- Building 154
- Building 156
- Building 170
- Building 238
- Building 299
- Building 300
- Building 306
- Building 308
- Building 315

<sup>(1)</sup> HBMA reports for Building 13 and Building 86 were previously submitted to NAVFAC. However, copies of the reports are included as Appendix D and Appendix E respectively.

The evaluations were performed by Tighe & Bond's Maine certified asbestos inspectors Jason Hayward (AI-0683) and Jon Van Hazinga (AI-0664). The purpose of the evaluations was to assist the Portsmouth Naval Shipyard (PNSY) in identifying asbestos-containing building materials (ACBM) and hazardous materials / components requiring abatement or mitigation in the event a renovation is planned.

The HBMA included the following tasks:

- Assess, sample and quantify presumed asbestos-containing materials (PACM) that may be disturbed during building renovation associated with the NAVFAC energy project as directed by NAVFAC representatives or demolition drawings provided by Acadia Engineers & Constructors (AEC)
- Perform polarized light microscopy (PLM) laboratory analysis of PACM bulk samples
- Perform confirmatory transmission electron microscopy (TEM) laboratory analysis of floor tiles testing negative for asbestos by PLM analysis



- Assess and inventory possible hazardous materials / components including building materials presumed to contain polychlorinated biphenyls (PCBs) and lead based paints (LBP) that may be disturbed during building renovation associated with the NAVFAC energy project
- Collect and submit LBP samples for SW846-7420/3051 laboratory analyses and PCB samples for total PCB analyses
- Collect and submit painted and unpainted building materials presumed to be representative of the renovation waste stream for Toxicity Characteristic Leaching Procedure (TCLP) analysis
- Provide a report of findings together with recommendations for compliance with applicable asbestos and hazardous material regulations

## **Asbestos Survey**

Prior to any type of building demolition/renovation, a survey is required to identify and quantify asbestos. This survey is required by Maine asbestos regulations Title 38, Chapter 12-A: Asbestos §1271-§1284 (Department of Environmental Protection); Chapter 425 – Asbestos Management Regulations, effective April 3, 2011 (Department of Environmental Protection); the National Emission Standards for Hazardous Air Pollutants (NESHAP) Standard for Demolition and Renovation 40 CFR Part 61.145, as well as applicable portions of the Occupational Safety and Health Administration (OSHA) CFR 1926.1101 asbestos in construction regulations. These regulations must be implemented during all facets of asbestos abatement and demolition/renovation as required by law.

The asbestos surveys consisted of a thorough assessment throughout accessible interior and exterior locations of various buildings as depicted on NAVFAC energy project demolition drawings provided by AEC and under the direction of a NAVFAC representative. Demolition drawings showing limits of survey areas and sample collection locations within individual buildings are included as Appendix C. Supplemental information regarding presence or absence of asbestos in select building materials was also provided by PNSY representative Delano Leonard through the use of previous assessment data. The purpose of the assessment was to determine the presence or absence of PACM that may be impacted during the proposed renovations. Bulk samples of PACM were collected from each homogenous group of materials in general accordance with standards described in the Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) Regulations for schools. A minimum of three samples of each suspect homogeneous group of materials are typically collected (contingent upon quantity) to confirm or deny the presence of asbestos content in the homogenous materials. The PACM is considered negative for asbestos only when the results of all samples indicate no asbestos detected above the Maine Department of Environmental Protection (MEDEP) threshold of 1% or greater asbestos.

Following collection, bulk samples were submitted to ProScience Analytical Services (PAS) of Woburn, Massachusetts for analysis via polarized light microscopy (PLM) with dispersion staining in accordance with the EPA/600/R-93/116 method. Although PLM Method EPA/600/R-93/116 is designated by the EPA and the state, the PLM methodology occasionally provides false negative analysis for asbestos. This occurs in non-friable organically bound (NOB) materials such as floor coverings, roofing materials, caulking, etc. In these instances, EPA guidance document suggests that TEM be considered to provide more definitive analysis of these types of materials. At the request of PNSY a confirmatory sample of floor tile be sampled for asbestos by TEM method for floor tile materials which tested as no asbestos content by PLM analysis.

TEM samples are 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 assessment information for each PACM evaluated is summarized in the *Asbestos-Containing Materials Inventory* provided in Appendix A as Table 1. The inventory tables lists PACM sampled, sample result, sample numbers, material locations and specific comments relative to materials observed. Additionally, the *PAS laboratory analytical reports* are included in Appendix B.

The asbestos containing materials discovered throughout the structure shall be removed by a licensed asbestos abatement contractor prior to any activity that has the potential to render these materials friable. We also recommend the following general requirements:

- A standardized Scope of Work/Specification should be established for the removal of asbestos containing materials at the structure. We recommend that the specification be developed by a licensed asbestos designer and it should address such important issues as regulatory requirements, notification procedures, air sampling requirements and other pertinent information.
- A Form N Asbestos Project Notification must be prepared by a licensed asbestos contractor and postmarked to Maine DEP at least ten (10) calendar days or received five (5) business days prior to the onset of asbestos abatement activity.
- Any employees who may work in this structure should be notified that asbestos containing materials are present and to not disturb them without proper training.

## **Hazardous Materials Survey**

Tighe & Bond performed a visual inspection of building equipment and materials that could contain hazardous components and have the potential for disturbance during the planned renovation.

Example of materials or components which are typically encountered in a building renovation consist of: heating oils, fire extinguishers, mercury containing thermostats, fluorescent light tubes and associated ballasts. For the purposes of this project thermostats and refrigeration liquids were specifically evaluated. The results of our survey confirmed the presence of hazardous materials/equipment within the various buildings and they are summarized in the *Miscellaneous Hazardous Materials Inventory* provided in Appendix A as Table 2.

These components should be removed / recycled or disposed of by trained personnel prior to demolition/renovation. Sampling and analyses of suspect hazardous materials were not performed as part of this scope of work, nor is it necessary to do so.

## **Lead Based Paint**

The Occupational Safety and Health Administration (OSHA) require special work practices if lead paint is disturbed during renovation. The lead paint must be handled in general accordance with the lead regulations, as well as any other state, Federal or local regulations.

Lead paint samples were collected from representative types of paint and were analyzed by ProScience Analytical Services, Inc. in Woburn, MA. The samples were analyzed by SW846-7420/3051 and a summary of the test results is presented in Appendix A as Table 3. The laboratory data are shown in Appendix B. The MEDEP defines lead containing paint as those that have greater than 0.5% lead by weight in the paint mixture.

Please note that paint can also contain hazardous levels of other materials such as cadmium, chromium, mercury, etc. which were not evaluated as part of Tighe & Bond's scope of work for this survey.

The lead samples were collected to assist PNSY in complying with OSHA regulations for construction activities under 29 CFR 1926.26 for the renovation areas. Further sampling may need to be performed if the scope of work for this project changes or if further delineation of the painted areas is required.

## **Lead Toxicity Characteristic Leaching Procedure**

The purpose of Toxicity Characteristic Leaching Procedure (TCLP) sample collection is to determine if the generated renovation waste stream is subject to disposal requirements under the Federal EPA "Resource Conservation and Recovery Act" (RCRA - 40 CFR Part 261). In order to maintain compliance with RCRA, all lead containing material that is subject to solid waste disposal requirements must be properly evaluated using one of several types of TCLP testing methods to determine if the materials are characteristically hazardous.

TCLP samples are typically collected utilizing a "Composite Sample and Demolish Method" to assess the lead content of the entire waste stream in lieu of painted components only. These materials included percentages of unpainted wood, asphalt-based roofing, concrete, and painted wood. Each of these materials typically become co-mingled during demolition and disposed of together, within a construction and demolition (C&D) debris type waste stream.

Sample collection of building materials / components expected to be disturbed during the renovation and have the potential to contain lead leachate concentrations greater than five (5) milligrams per liter (mg/L) was not performed as part of this building survey, due to the potentially low amounts of anticipated waste stream material that may be associated with the energy project renovations.

Additionally, The American Society for Testing and Materials (ASTM) Standard E1908-10 "Standard Guide for Sample Selection of Debris Waste from a Building Renovation or Lead Abatement Project for TCLP Testing for Leachable Lead (Pb)", recommends debris waste stream to have more than one painted component and that the debris waste stream are at least partially segregated and that the volume of each type of component in the debris waste stream may be estimated. The waste stream is only anticipated to contain one painted component (sheetrock) and it was not feasible at the time of the survey to make a determination of the volume of each type of debris that would be impacted during the renovations.

Regardless of TCLP results, workers should wear personal protective equipment as necessary during any lead paint disturbance.

## **Polychlorinated Biphenyls (PCBs) in Building Materials**

PCBs in building materials have received extensive attention over recent years by environmental regulators, consultants, and contractors, and PCBs are increasingly being identified in buildings that may undergo demolition or renovation. Buildings/structures that were constructed (or renovated) between the 1950s and the late 1970s have a greater potential to contain PCBs in certain building materials.

It is important to note that EPA regulations which govern the Toxic Substance Control Act (TSCA) requirements including PCBs and PCB Bulk Product Wastes, do not require the sampling for PCBs prior to building demolition or renovation. Therefore there is no current regulatory requirement to sample for PCBs (local, state or Federal).

Regardless of the regulatory sampling requirements many waste/recycling receiving facilities may request PCB sampling to be performed. If it is suspected that PCBs could be present, it is important to also mitigate potential human health and safety risk to abatement/demolition contractors and owners' potential liability associated with the proper recycling/disposal of certain generated demolition waste materials.

No materials in our opinion necessitating PCB analysis were encountered as part of these building surveys with the exception of Building 13. Material types sampled, material location and PCB results are summarized in the *PCB Sampling Analytical Results Table* and *ESS Laboratory Report* are located in Building 13 HMBA Report included as Appendix D of this report

Please do not hesitate to call the undersigned at (508) 471-9614 if you have any questions concerning this information or if you wish to implement any of our recommendations.

Very truly yours,

**TIGHE & BOND, INC.**



Jason Hayward  
EH&S Compliance Specialist  
Maine Asbestos Inspector (AI-0683)

### **Enclosures**

**Appendix A: Hazardous Material Inventory Tables**

**Appendix B: Laboratory Sample Reports**

**Appendix C: Building Floor Plans**

**Appendix D: Building 13 Hazardous Building Material Assessment Report**

**Appendix E: Building 86 Hazardous Building Material Assessment Report**

# **Appendix A**

## **Hazardous Material Inventory Tables**

## **Building 14**

**TABLE 1**  
 Asbestos Bulk Sampling Table  
 Building 14  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
14-01 14-02	Sealant (grey)	<b>Bank Entrance:</b> HVAC closet, on duct work	NA	Negative	Material tested as non-asbestos. Only on ductwork transitions.
Not Sampled	Pipe Insulation	<b>Bank Entrance:</b> HVAC closet, on duct work	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.
14-03 14-04 14-05	Sheetrock	<b>Bank Entrance:</b> HVAC closet, on duct work TLD Hallway	NA	Negative	Material tested as non-asbestos.
14-06 14-07 14-08	Joint Compound	<b>Bank Entrance:</b> HVAC closet, on duct work TLD Hallway	NA	Negative	Material tested as non-asbestos. Joint compound applied at screw holes, seams and entire surface of sheetrock as a skim coat.
14-09 14-10 14-11	2'x2' Mixed cellulose ceiling panel, dot & fissure pattern	<b>Bank Entrance:</b> Ceiling	NA	Negative	Material tested as non-asbestos.
Previously Sampled	Pipe Insulation	<b>TLD Hallway:</b> Concealed behind walls	See Naval Shipyard reports	Positive	Pipe insulation was previously sampled (Samples 118-120, 11-5-92) and areas labeled by the Naval Shipyard. This material is not likely to be impacted and is listed for informational purposes in regards to worker communication and safety.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 14

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Northern side of building	1 ACCU Unkonwn quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 14  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-14-01	White Paint	<b>Bank Entrance:</b> HVAC Closet, on sheetrock <b>TLD Hallway:</b> On exterior brick wall	Quantity of material to be impacted will be dependent on Contractors needs	0.11	The white paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b> NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

## **Building 18**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 18  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
18-01 18-02 18-03	Sheetrock	<b>Dark Room:</b> Walls <b>Shop 71:</b> Walls	NA	Negative	Material tested as non-asbestos. No sheetrock tape observed.
18-04 18-05 18-06	Joint Compound	<b>Dark Room:</b> Walls <b>Shop 71:</b> Walls	NA	Negative	Material tested as non-asbestos. No sheetrock tape observed.
18-07 18-08 18-09	2'x4' Suspended ceiling panel	<b>Shop 71:</b> Foreman's Office (Supply Office)	NA	Negative	Material tested as non-asbestos.
18-10 18-11 18-12	Roofing cement (black)	<b>Shop 71:</b> Roof	NA	Negative	Material tested as non-asbestos. At pipe penetrations and overspill onto equipment.
Not Sampled	Pipe Insulation	<b>Shop 71:</b> Duct work and Glycol insulation	NA	Not Sampled	Insulated piping appears to be non-asbestos fiberglass insulation.
Not Sampled	Pipe Insulation	<b>Exterior:</b> Large Chiller	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.

**LEGEND**

ND = NONE DETECTED  
 NA = NOT APPLICABLE

**TABLE 2**

Miscellaneous Hazardous Materials  
Building 18  
Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>Shop 71 &amp; Dark Room</b>	None Observed	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior Chiller &amp; ACCU:</b> North side of Shop 71 Building, South side of Dark Room building <b>Shop 71:</b> Supply Office	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 18  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-18-01	Light Blue Paint	<b>Exterior:</b> Outside Dark Room, applied to support for ACCU. At approximately 8 feet.	Quantity of material to be removed will be dependent on Contractors needs	<RL	The light blue paint tested than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-18-02	Blue Paint	<b>Dark Room:</b> Walls	Quantity of material to be removed will be dependent on Contractors needs	0.16	The blue paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b>					
NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

## **Building 22**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 22  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
22-01 22-02 22-03	Asphaltic shingling	<b>Exterior:</b> Control panels for ACCU's	4 SF	Negative	Material tested as non-asbestos.
Not Sampled	Caulking	<b>Exterior:</b> Associated with ACCU's	NA	Not Sampled	Material is a non-asbestos silicon caulking.
Not Sampled	Pipe insulation	<b>Exterior:</b> Associated with ACCU's	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Not Sampled	Pipe insulation	<b>Second Floor:</b> Kitchen AHU's	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Not Sampled	Caulking (white)	<b>Second Floor:</b> Kitchen, access doors	NA	Not Sampled	Material is a non-asbestos silicon caulking.
Not Sampled	Ceramic Tile	<b>Second Floor:</b> Kitchen, AHU housings	NA	Not Sampled	Material is non-asbestos ceramic tile.
22-04 22-05 22-06	2'x2' Suspended ceiling panel	<b>First Floor:</b> Office Area	NA	Negative	Material tested as non-asbestos. Mixed cellulose dot and fissure pattern ceiling panel.
Not Sampled	Pipe insulation	<b>First Floor:</b> Office Area, above suspended ceiling	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Not Sampled	Pipe insulation & Duct work insulation	<b>First Floor:</b> Mechanical Room	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.
22-07 22-08 22-09	Sheetrock	<b>First Floor:</b> Mechanical Room	NA	Negative	Material tested as non-asbestos.
22-10 22-11 22-12	Joint Compound	<b>First Floor:</b> Mechanical Room	NA	Negative	Material tested as non-asbestos. Applied on sheetrock as a skim coat.
22-13 22-14 22-15	Sheetrock Tape	<b>First Floor:</b> Mechanical Room	NA	Negative	Material tested as non-asbestos.
22-16 22-17	Adhesive (white), on duct work	<b>First Floor:</b> Mechanical Room	NA	Negative	Material tested as non-asbestos.
22-18 22-19 22-20	Rolled on asphaltic shingling	<b>Exterior:</b> Roof	NA	Negative	Material tested as non-asbestos. Applied to roof and vertical side of the ACCU and AHU. Covered with stone ballast.

Sample #	Material	Location	Approximate Quantity	Result	Comment
22-21 22-22 22-23	Roofing cement (dark grey)	<b>Exterior:</b> Roof	NA	Negative	Material tested as non-asbestos.
22-24 22-25 22-26	Damp proofing	<b>Exterior:</b> Roof	NA	Negative	Material tested as non-asbestos. Under rolled on shingling.
Not Sampled	Pipe insulation	<b>Exterior:</b> Roof, associated with ACCU	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
22-27 22-28 22-29	Roofing cement (dark green)	<b>Exterior:</b> Roof, associated with AHU	NA	Negative	Material tested as non-asbestos.
Not Sampled	Caulking (white)	<b>Exterior:</b> Roof, associated with ACCU's	NA	Not Sampled	Material is a non-asbestos silicon caulking. At bottom of ACCU unit.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 22

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>Second Floor:</b> Dining Room	2 count	Any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior Chiller &amp; ACCU's:</b> Roof and West side of building	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.

**LEGEND**

Hg = Mercury

PCB = Polychlorinated biphenyl

ACCU = Air Cooled Chiller Unit

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 22  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-22-01	White Paint	<b>Exterior:</b> West portion of building, brick wall	Quantity of material to be removed will be dependent on Contractors needs	0.54	The white paint tested greater than the reporting limits.
LBP-22-02	Tan Paint	<b>First Floor:</b> Office Area, above suspended ceiling	Quantity of material to be removed will be dependent on Contractors needs	0.75	The tan paint tested greater than the reporting limits.
LBP-22-03	Off-white Paint	<b>First Floor:</b> Mechanical Room, ceiling and walls	Quantity of material to be removed will be dependent on Contractors needs	0.06	The off-white paint tested than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b>					
NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

## **Building 27**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 27  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
27-01 27-02 27-03	Sheetrock	<b>Second Floor:</b> Diving wall between Open Office and Conference Room and ceilings	NA	Negative	Material tested as non-asbestos. No sheetrock tape observed.
27-04 27-05 27-06	Joint Compound	<b>Second Floor:</b> Diving wall between Open Office and Conference Room and ceilings	NA	Negative	Material tested as non-asbestos. Applied as a skim over the entire sheetrock surface. No sheetrock tape observed.
Not Sampled	Pipe Insulation	<b>Exterior:</b> East Side <b>First Floor:</b> Training Area <b>Second Floor:</b> Open Office & Conference Room	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.

**LEGEND**

ND = NONE DETECTED  
 NA = NOT APPLICABLE

**TABLE 2**

Miscellaneous Hazardous Materials

Building 27

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>First Floor:</b> Training Area <b>Second Floor:</b> Open Office & Conference Room	3 Count	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Northern & Western sides of building, West of Test Tank	3 ACCU's Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**LEAD BASED PAINT INVENTORY**  
**River Road Pump Station**  
**River Road**  
**Jaffrey, New Hampshire**

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 27  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-27-01	Light Blue Paint and older paint layer underneath	<b>Mechanical Room:</b> Second floor mechanical room housing AHU-3: On mechanical systems, walls and support beams	Quantity of material to be removed will be dependent on Contractors needs	0.29	The light blue paint and under layer tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<p><b>LEGEND</b></p> <p>NA = NOT APPLICABLE  SF = SQUARE FEET  LF = LINEAR FEET  &lt;RL = LESS THAN REPORTING LIMIT (% BY WEIGHT)  FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT</p>					

## **Building 29**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 29  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
29-01 29-02 29-03	Grout/cement type filler material (light grey)	<b>Exterior:</b> At wall penetration, Eastern portion of the	25 SF	Negative	Material tested as non-asbestos.
Not Sampled	Caulking	<b>Exterior:</b> At wall joint, Eastern portion of the Building	NA	Not Sampled	Material is a non-asbestos silicon caulking.
29-04 29-05	Putty (red)	<b>First Floor:</b> Electrical room	NA	Negative	Material tested as non-asbestos.
29-06 29-07 29-08	Sealant (grey)	<b>First Floor:</b> Electrical room, on duct work	NA	Negative	Material tested as non-asbestos.
Not Sampled	Caulking	<b>Electrical Room:</b> At wall penetrations for duct work, fan & intake	NA	Not Sampled	Material is a non-asbestos silicon caulking.
29-09 29-10 29-11	2'x4' Suspended ceiling panel	<b>First Floor:</b> Kitchenette, Electrical Room	NA	Negative	Material tested as non-asbestos. Mixed cellulose dot and fissure pattern ceiling panel.
29-12 29-13 29-14	Sheetrock	<b>First Floor:</b> Kitchenette, Electrical Room	NA	Negative	Material tested as non-asbestos.
29-15 29-16 29-17	Joint Compound	<b>First Floor:</b> Kitchenette, Electrical Room	NA	Negative	Material tested as non-asbestos.
29-18 29-19 29-20	Sheetrock Tape	<b>First Floor:</b> Kitchenette, Electrical Room	NA	Negative	Material tested as non-asbestos.
29-21 29-22 29-23	12"x12" Ceiling tile	<b>First Floor:</b> Kitchenette, Electrical Room	NA	Negative	Material tested as non-asbestos. Dot pattern ceiling tile. No associated glue daubs observed.

**LEGEND**

ND = NONE DETECTED

NA = NOT APPLICABLE

**Note:** Access was not allowed into the Dispatch Room at the time of the survey, however building materials to be encountered are likely to be similar to those sampled above.

**TABLE 2**

Miscellaneous Hazardous Materials

Building 29

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>First Floor:</b> Electrical Room & Kitchenette	None Observed	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior Chiller &amp; ACCU:</b> East side of building	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b>			
Hg = Mercury			
PCB = Polychlorinated biphenyl			
ACCU = Air Cooled Chiller Unit			

**TABLE 3**

Lead Based Paint Sampling Results Table  
Building 29  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-29-01	Multiple layers of green & tan paint	<b>First Floor:</b> Electrical Room & Kitchenette, on brick walls and columns	Quantity of material to be removed will be dependent on Contractors needs	0.14	The multi-layers of paint tested than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.

**LEGEND**

NA = NOT APPLICABLE  
SF = SQUARE FEET  
LF = LINEAR FEET  
<RL = LESS THAN REPORTING LIMIT (% BY WEIGHT)  
FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT

## **Building 31**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 31  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
31-01 31-02 31-03	Plaster	<b>Display Area:</b> Walls	NA	Negative	Material tested as non-asbestos.
31-04 31-05 31-06	Plaster Skim Coat	<b>Display Area:</b> Walls	NA	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Display Area, Back Room/Storage Area:</b> At ceiling height, above suspended ceiling	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.
Not Sampled	2'x4' Ceiling panels	<b>Display Area:</b>	NA	Not Sampled	Ceiling panels appear to be non-asbestos Styrofoam.
Not Sampled	Adhesive for wood paneling	<b>Display Area:</b> Walls	Quantity of material to be impacted will be dependent on Contractors needs	Not Sampled	It could not be determined at the time of the survey if the wood paneling was adhered or fastened to the wall without significantly damaging the wood paneling. If the wood paneling is to be impacted, it should be determined prior to impact whether or not there is adhesive which may be asbestos containing. Suspect asbestos containing materials should be sampled by a state certified/licensed asbestos inspector.
<b>LEGEND</b>					
ND = NONE DETECTED NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 31

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostat	<b>Display Area:</b> Wall by entrance to Back Room/Storage Area	1 Count	All thermostats are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Eastern side of building	1 ACCU Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.

**LEGEND**

Hg = Mercury

PCB = Polychlorinated biphenyl

ACCU = Air Cooled Chiller Unit

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 31  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-31-01	Beige Paint	<b>Display Area:</b> On wood surfaces and conduit	Quantity of material to be removed will be dependent on Contractors needs	0.053	The beige paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-31-02	Blue Paint	<b>Back Room/Storage Area:</b> Walls	Quantity of material to be removed will be dependent on Contractors needs	<RL	The blue paint tested less than the reporting limit (0.022). However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-31-03	Teal (Sea Green)	<b>Display Area:</b> Above suspended ceiling, on wall Also appears to be located under beige paint (LBP-31-01)	Quantity of material to be removed will be dependent on Contractors needs	0.22	The teal paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-31-04	White Paint	<b>Exterior:</b> Under vinyl siding	Quantity of material to be removed will be dependent on Contractors needs	8.6	The white paint tested greater than the reporting limit.

**LEGEND**  
NA = NOT APPLICABLE  
SF = SQUARE FEET  
LF = LINEAR FEET  
<RL = LESS THAN REPORTING LIMIT (% BY WEIGHT)  
FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT

## **Building 44**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 44  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
44-01 44-02 44-03	Sheetrock	<b>Petition Wall:</b> Between Mechanical Room and Office Area	NA	Negative	Material tested as non-asbestos.
44-04 44-05 44-06	Joint Compound	<b>Petition Wall:</b> Between Mechanical Room and Office Area	NA	Negative	Material tested as non-asbestos.
44-07 44-08 44-09	Tape	<b>Petition Wall:</b> Between Mechanical Room and Office Area	NA	Negative	Material tested as non-asbestos.
44-10 44-11 44-12	12"x12" Ceiling tile, dot pattern	<b>Mechanical Room and Office Area:</b> Above suspended ceiling in Office Area	NA	Negative	Material tested as non-asbestos. Ceiling tiles in Office Area are nailed on furring strips and a layer of wood and no glue was used to adhere the tiles. It could not be verified if this was also the case in the Mechanical Room due to inaccessibility. This should be verified prior to any disturbance to the tiles. Additionally, it should be verified whether or not the wood under furring strips is the substrate of the ceiling.
44-13 44-14 44-15	2'x2' Ceiling panel, mixed cellulose, dot and fissure pattern	<b>Office Area:</b> Associated with suspended ceiling	NA	Negative	Material tested as non-asbestos.
44-16 44-17	Sealant (grey)	<b>Mechanical Room:</b> At ductwork seams, joints	NA	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Mechanical Room and Office Area:</b>	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.
Not Sampled	12"x12" Floor tile	<b>Mechanical Room:</b>	NA	Not Sampled	Product box, with homogenous unused floor tile, states floor tile is non-asbestos.
Not Sampled	Pipe Insulation	<b>Exterior:</b> Associated with ACCU	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Not Sampled	Silicon Caulking	<b>Exterior:</b> Associated with ACCU, at pipe penetrations	NA	Not Sampled	Caulking appears to be non-asbestos silicon caulking.

**LEGEND**

ND = NONE DETECTED  
 NA = NOT APPLICABLE

**TABLE 2**

Miscellaneous Hazardous Materials

Building 44

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Southern & Eastern sides of building	3 ACCU Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 44  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-44-01	Brown Paint	<b>Office Area:</b> On exterior brick wall	Quantity of material to be removed will be dependent on Contractors needs	0.19	The brown paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-44-02	Brown & Green Paint (multi-layers) Covered by newer white latex paint	<b>Mechanical Room:</b> On exterior brick wall	Quantity of material to be removed will be dependent on Contractors needs	0.33	The brown & green paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b>					
NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

## **Building 59**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 59  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
59-01 59-02	Sealant (grey)	<b>Vault:</b> On duct work	NA	Negative	Material tested as non-asbestos.
59-03 59-04	2'x2' Mixed cellulose ceiling panel, dot & fissure pattern	<b>Vault, Men's Room, Women's Room:</b> Suspended ceiling	NA	Negative	Insulated piping appears to be non-asbestos foam or fiberglass insulation.
59-05 59-06 59-07	Sheetrock	<b>Vault, Mechanical Room:</b> Walls	NA	Negative	Material tested as non-asbestos.
59-08 59-09 59-10	Joint Compound	<b>Vault, Mechanical Room:</b> Walls	NA	Negative	Material tested as non-asbestos. Joint compound applied at screw holes, seams and entire surface of sheetrock as a skim coat.
59-11 59-12	Putty (red)	<b>Mechanical Room:</b> Fire stop at pipe penetrations	NA	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Vault, Mechanical Room:</b>	NA	Not Sampled	Insulated piping appears to be fiberglass insulation.
Not Sampled	Silicon caulking	<b>Exterior:</b> At chiller and ACCU	NA	Not Sampled	Associated with the metal jacketing for the pipe insulation. Material is a non-asbestos silicon caulking.
Not Sampled	Pipe Insulation	<b>Exterior:</b> At chiller and ACCU	NA	Not Sampled	Insulated piping appears to be non-asbestos fiberglass and/or foam insulation.

**LEGEND**  
ND = NONE DETECTED  
NA = NOT APPLICABLE

**TABLE 2**

Miscellaneous Hazardous Materials

Building 59

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Eastern side of building	1 ACCU Unkonwn quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

## **Building 79**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 79  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
79-01 79-02 79-03	2'x2' Suspended ceiling panel	<b>Second Floor:</b> Classrooms A & B, South AHU <b>Third Floor:</b> Mechanical Room	NA	Negative	Material tested as non-asbestos. Mixed cellulose dot & fissure pattern ceiling panel.
Not Sampled	Pipe Insulation	<b>Second Floor:</b> Classrooms A & B, South AHU <b>Third Floor:</b> Mechanical Room	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Previously identified by PNSY	Pipe Insulation	<b>Crawlspace between Third Floor and Roof</b>	NA	Positive	Not part of the plan renovation work area. However, the presence of the asbestos pipe should be communicated to workers accessing the crawlspace area.
79-04 79-05 79-06	Roofing cement (dark green)	<b>Exterior:</b> Roof	NA	Negative	Material tested as non-asbestos. At pipe penetrations to lower floors.
79-07 79-08 79-09	Roofing cement (black)	<b>Exterior:</b> Roof	NA	Negative	Material tested as non-asbestos. Applied to roof seams and at various locations on roof top equipment.
79-10 79-11 79-12	Rolled asphaltic shingling, top layer	<b>Exterior:</b> Roof	NA	Negative	Material tested as non-asbestos. Material not likely to be impacted, new equipment reportedly to be placed on existing supports.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 79

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>Second Floor &amp; Roof</b>	None Observed	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior Roof ACCU's: Second Floor:</b>	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**

Lead Based Paint Sampling Results Table  
Building 79  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-79-01	Tan Paint	<b>Second &amp; Third Floors:</b> Walls and ceilings	Quantity of material to be removed will be dependent on Contractors needs	0.25	The tan paint tested than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b> NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

## **Building 153**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 153  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
153-01 153-02 153-03	Sheetrock	<b>Second Floor:</b> Computer 203, Web Training 202	NA	Negative	Material tested as non-asbestos.
153-04 153-05 153-06	Joint Compound	<b>Second Floor:</b> Computer 203, Web Training 202	NA	Negative	Material tested as non-asbestos.
153-07 153-08 153-09	Sheetrock Tape	<b>Second Floor:</b> Computer 203, Web Training 202	NA	Negative	Material tested as non-asbestos.
153-10 153-11 153-12	2'x4' Suspended ceiling panel	<b>Second Floor:</b> Computer 203, Web Training 202	NA	Negative	Material tested as non-asbestos.
153-13 153-14	Caulking (grey)	<b>Exterior:</b> Ground level Chiller	NA	Negative	Material tested as non-asbestos. At pipe penetrations for ground level chiller.
Not Sampled	Roofing materials	<b>Roof:</b>	NA	Not Sampled	It was reported that the roof materials (e.g., roofing cement, insulation, etc.) would not likely be impacted as part of the project, the new roof top unit would be placed on the existing bracket without impacting the roof.
Not Sampled	Pipe Insulation	<b>Second Floor:</b> Computer 203, Web Training 202	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Not Sampled	Pipe Insulation	<b>Exterior:</b> Associated with chillers	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 153

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>First Floor:</b> <b>Second Floor:</b> Computer 203, Web Training 202	None Observed	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior Chiller &amp; ACCU:</b> South side of building (chiller), East side of building (ACCU)	Unknown quantity of R- 22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**

Lead Based Paint Sampling Results Table  
Building 153  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-153-01	Tan/Off White Paint	<b>Second Floor:</b> Computer 203, Web Training 202	Quantity of material to be removed will be dependent on Contractors needs	<RL	The tan/off white paint tested than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b> NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

## **Building 154**

**TABLE 1**  
 Asbestos Bulk Sampling Results Table  
 Building 154  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
154-01 154-02 154-03	Joint Compound	<b>Dispatch Office:</b> Walls and ceiling	NA	Negative	Material tested as non-asbestos.
154-04 154-05 154-06	Sheetrock	<b>Dispatch Office:</b> Walls and ceiling	NA	Negative	Material tested as non-asbestos.
154-07	Putty	<b>Exterior:</b> At copper refrigerant line wall penetration	NA	Negative	Material tested as non-asbestos.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 154

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Eastern side of building	3 ACCU Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b>			
Hg = Mercury			
PCB = Polychlorinated biphenyl			
ACCU = Air Cooled Chiller Unit			

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 154  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-154-01	White Paint	<b>Exterior:</b> Near ACCU, under vinyl siding	Quantity of material to be removed will be dependent on Contractors needs	13	The white paint tested greater than the reporting limit.
LBP-154-02	Light green (mint) Paint	<b>Dispatch Office:</b> Walls	Quantity of material to be removed will be dependent on Contractors needs	<RL	The light green paint tested less than the reporting limit (0.034). However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b>					
NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

## **Building 156**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 156  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
156-01 156-02 156-03	Sealant (black)	<b>Exterior:</b> At RTU	NA	Negative	Material tested as non-asbestos. Seam where the dust work meets the RTU and used at duct work rubber covering seam. Duct work on designated for removal.
Not Sampled	Pipe Insulation	<b>Exterior:</b> At small chiller	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
156-04 156-05 156-06	Carpet adhesive	<b>Base Support Safety Office:</b>	NA	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Base Support Safety Office:</b>	NA	Negative	Insulated piping appears to be non-asbestos foam insulation.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials  
Building 156  
Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Western side of building <b>Exterior RTU:</b> Northern side of building <b>Base Support Safety Office</b> <b>AC's:</b> Western wall	1 ACCU, 1 RTU, 2 AC's  Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 156  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-156-01	White Paint	<b>Exterior:</b> Foundation, ground to 4'	Quantity of material to be impacted will be dependent on Contractors needs	0.065	The white paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
Not Sampled	White Paint	<b>Base Support Safety Office:</b> On wood paneling	Quantity of material to be impacted will be dependent on Contractors needs	Not Sampled	The paint on the wood paneling is newer paint and likely of latex type. However, there likely is older paint under the wood paneling that could not be accessed at the time of the survey which may contain levels of lead, this material is not likely to be impacted as part of planned renovations.

**LEGEND**  
NA = NOT APPLICABLE  
SF = SQUARE FEET  
LF = LINEAR FEET  
<RL = LESS THAN REPORTING LIMIT (% BY WEIGHT)  
FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT

## **Building 170**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 170  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
170-01 170-02 170-03	Flashing/roofing cement (silver)	<b>Roof:</b> At chiller pipe penetrations	NA	Negative	Material tested as non-asbestos.
170-04 170-05 170-06	Rolled asphaltic shingling	<b>Roof:</b> Throughout	NA	Negative	Material tested as non-asbestos.
170-07 170-08 170-09	Roofing cement	<b>Roof:</b> At rolled shingling seams	NA	Negative	Material tested as non-asbestos.
170-10 170-11	Flashing/roofing cement (black)	<b>Roof:</b> At chillers, at base of unit and piping	NA	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Sixth Floor:</b> Data Center	NA	Not Sampled	Insulated piping associated with the AHU's appears to be non-asbestos foam or fiberglass insulation.
<b>Not Sampled</b>	<b>Pipe Insulation</b>	<b>Throughout</b>	<b>NA</b>	<b>Positive</b>	<b>It should be noted that while not observed during the survey, PNSY reports that some asbestos pipe insulation may be present in the south portion of the Data Center area and that the piping is not labeled as asbestos. PNSY additionally reports of asbestos piping in other floors of Building 170, with a majority of the asbestos piping being labeled. This is being provided as informational purposes and these materials are not likely to be impacted as part of this project.</b>
170-12 170-13 170-14	Sheetrock	<b>Sixth Floor:</b> Data Center	NA	Negative	Material tested as non-asbestos.
170-15 170-16 170-17	Tape	<b>Sixth Floor:</b> Data Center	NA	Negative	Material tested as non-asbestos.
170-18 170-19 170-20	Joint Compound	<b>Sixth Floor:</b> Data Center	NA	Negative	Material tested as non-asbestos.
170-21 170-22 170-23	Duct work sealant (grey)	<b>Sixth Floor:</b> Data Center	NA	Negative	Material tested as non-asbestos. At ductwork seams.

Sample #	Material	Location	Approximate Quantity	Result	Comment
170-24 170-25 170-26	2'x2' Ceiling panel, mixed cellulose, dot and fissure pattern	<b>Sixth Floor:</b> Data Center & Telephone Room	NA	Negative	Material tested negative for asbestos.
<b>Previously sampled by PNSY</b>	<b>12"x12" Floor tile and mastic</b>	<b>Sixth Floor:</b> Data Center, under raised floor	<b>See comment</b>	<b>Reported Positive by PNSY</b>	<b>Both the floor tile and mastic reportedly tested positive for asbestos. Quantities to be removed will be determined by amount of impact to be caused by HVAC renovations.</b>
Previously sampled by PNSY	12"x12" tongue and groove ceiling tile	<b>Sixth Floor:</b> Data Center & UPS Room (Room 72), on ceiling and walls and on ceiling above suspended ceiling	NA	Reported Negative by PNSY	Material tested as non-asbestos.
Previously sampled by PNSY	Glue daubs associated with 12"x12" ceiling tile	<b>Sixth Floor:</b> Data Center & UPS Room (Room 72), on ceiling and walls and on ceiling above suspended ceiling	NA	Reported Negative by PNSY	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Sixth Floor:</b> Telephone Room	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.

**LEGEND**

ND = NONE DETECTED  
NA = NOT APPLICABLE

**TABLE 2**

Miscellaneous Hazardous Materials

Building 170

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>Sixth Floor:</b> UPS Room	1 count	Any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Rooftop:</b> RTU's, ACCU's & Chiller Units <b>Interior:</b> ACCU & CRACU Units	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 170  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-170-01	Off-white/tan Paint	<b>Sixth Floor:</b> Data Center/UPS/Telephone: - Piping	Quantity of material to be removed will be dependent on Contractors needs	0.74	The off-white/tan paint tested less above the regulatory limit.
LBP-170-02	White Paint	<b>Sixth Floor:</b> Data Center/UPS/Telephone: - Wall by ACCU-01, on wall and piping	Quantity of material to be removed will be dependent on Contractors needs	0.15	The white paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b>					
NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

**Building 238**

**TABLE 1**  
 Asbestos Bulk Sampling Results Table  
 Building 238  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
Not Sampled	Pipe Insulation	<b>Roof:</b> At chiller	NA	Not Sampled	Insulated ductwork appears to be non-asbestos foam insulation.
Not Sampled	Silicon caulking	<b>Roof:</b> At chiller	NA	Not Sampled	The caulking associated with the ductwork and chiller appears to be non-asbestos silicon caulking.
238-01 238-02 238-03	Rolled asphaltic shingling	<b>Roof:</b>	NA	Negative	Material tested as non-asbestos.
238-04 238-05 238-06	Roofing cement	<b>Roof:</b>	NA	Negative	Material tested as non-asbestos. Applied at the seams of the rolled asphaltic shingling.
238-07 238-08 239-09	Damp proof type layer	<b>Roof:</b>	NA	Negative	Material tested as non-asbestos. Under the rolled on asphaltic shingling.
238-10 238-11 238-12	Fibrous insulation	<b>Roof:</b>	NA	Negative	Material tested as non-asbestos. Under the rolled on asphaltic shingling damp proofing.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 238

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Roof Chiller:</b>	1 Chiller Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

## **Building 299**

**TABLE 1**  
 Asbestos Bulk Sampling Results Table  
 Building 299  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
299-01 299-02 299-03	Rolled asphaltic shingling	<b>Roof:</b> Near RTU	NA	Negative	Material tested as non-asbestos.
299-04 299-05 299-06	Damp proof type layer (1st layer)	<b>Roof:</b> Near RTU	NA	Negative	Material tested as non-asbestos. Under the rolled on asphaltic shingling.
299-07 299-08 299-09	Damp proof type layer (2nd layer)	<b>Roof:</b> Near RTU	NA	Negative	Material tested as non-asbestos. Under the 1st layer damp proof and asphaltic shingling.
299-10 299-11 299-12	Roofing cement	<b>Roof:</b> Near RTU	NA	Negative	Material tested as non-asbestos. Applied at the seams of the rolled asphaltic shingling.
299-13 299-14	Duct work sealant (grey)	<b>Office area:</b> Interior, below RTU	NA	Negative	Material tested as non-asbestos. At the duct work seams in the interior of the building.

**LEGEND**  
 ND = NONE DETECTED  
 NA = NOT APPLICABLE

**TABLE 2**

Miscellaneous Hazardous Materials  
Building 299  
Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Roof:</b> Western portion of roof	1 RTU  Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**Building 300**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 300  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
300-01 300-02 300-03	12" x 12" white with grey specs floor tile	<b>Second Floor:</b> Planning & Scheduling Office	-	Negative <sup>(1)</sup>	AHU sit ontop of floor tile. Floor tile may be impacted during AHU removal. Materials tested as non-asbestos.
300-01A 300-02A 300-03A	Mastic for 12" x 12" white with grey specs floor tile	<b>Second Floor:</b> Planning & Scheduling Office	-	Negative	
300-04 300-05 300-06	2' x 4' Suspended ceiling tile	<b>Second Floor:</b> MCC Office	-	Negative	

**LEGEND**

ND = NONE DETECTED  
 NA = NOT APPLICABLE  
 TSI - THERMAL SYSTEMS INSULATION  
 PNSY = PORTSMOUTH NAVAL

TEM = TRANSMISSION ELECTRON MICROSCOPY  
 PLM = POLARIZED LIGHT MICROSCOPY  
 TRACE = LESS THAN 1% ASBESTOS  
 (1) TEM ANALYSIS PERFORMED IF PLM ANALYSIS SHOWED NON DETECT FOR ASBESTOS RESULTS

**TABLE 2**

Miscellaneous Hazardous Materials

Building 300

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Mercury thermostat/switch	<b>None Observed</b>	None observed	All mercury thermostats/switches are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Interior AHU:</b> First Floor MCC Office, Second Floor Planning & Scheduling Office	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b>			
Hg = Mercury			

**TABLE 3**

Lead Based Paint Sampling Results Table  
Building 300  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
300-LBP-01	Off White Paint	<b>MCC Office:</b> On CMU Block wall and Electrical conduit	Quantity of material to be removed will be dependent on Contractors needs	<RL	The off white paint tested less than the reporting limits. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b> NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT SHADED AREAS = ANY AREA THAT TESTED AT OR ABOVE THE 0.5% LEAD BY WEIGHT LIMIT					

**Building 306**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 306  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
306-01 306-02 306-03	Sheetrock	<b>Mechanical Rooms (2), Test Tank:</b> Walls and ceilings	NA	Negative	Material tested as non-asbestos.
306-04 306-05 306-06	Joint Compound	<b>Mechanical Rooms (2), Test Tank:</b> Walls and ceilings	NA	Negative	Material tested as non-asbestos.
306-07 306-08 306-09	Tape	<b>Mechanical Rooms (2), Test Tank:</b> Walls and ceilings	NA	Negative	Material tested as non-asbestos.
306-10 306-11	Grey putty	<b>Mechanical Rooms:</b> On duct work system	NA	Negative	Material tested as non-asbestos. Used as gasketing material at the duct joints. Material was also observed at the joints which were covered with the duct work jacketing.
Not Sampled	Pipe Insulation	<b>Mechanical Rooms (2) and Test Tank:</b>	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.
306-12 306-13	Sealant (grey)	<b>Mechanical Rooms:</b> At ductwork seams, joints	NA	Negative	Material tested as non-asbestos. Material was brushed on.
306-14 306-15	Red putty	<b>Mechanical Room:</b> First Floor, off of Tank Test area, at pipe penetrations	NA	Negative	Material tested as non-asbestos.
Not Sampled	Red putty	<b>Exterior:</b> At pipe penetrations associated with ACCU-3	6 SF	Not Sampled	Material is located approximately 30' from the ground. Material appeared to be similar to the red putty in the Mechanical Room (Samples 306-14 and 306-15).
Not Sampled	Pipe Insulation	<b>Exterior:</b> Associated with ACCU's-2 through 5	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Not Sampled	Silicon Caulking	<b>Exterior:</b> Associated with ACCU-2	NA	Not Sampled	Caulking appears to be non-asbestos silicon caulking.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 306

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Northern & Western sides of building, West of Test Tank	5 ACCU's Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 306  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-306-01	Tan Paint	<b>Mechanical Room:</b> Second floor mechanical room housing AHU-3: On mechanical systems, walls and support beams	Quantity of material to be removed will be dependent on Contractors needs	<RL	The tan paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-306-02	White Paint	<b>Exterior:</b> Coating on foam insulation	Quantity of material to be removed will be dependent on Contractors needs	<RL	The white paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
Not Sampled	Light blue paint	<b>Mechanical Room:</b> Second floor mechanical room housing AHU-1 and AHU-2: On walls	NA	Not Sampled	The paint appears to be newer laytex paint.

**LEGEND**  
NA = NOT APPLICABLE  
SF = SQUARE FEET  
LF = LINEAR FEET  
<RL = LESS THAN REPORTING LIMIT (% BY WEIGHT)  
FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT

**Building 308**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
Building 308  
Portsmouth Naval Shipyard

<b>Sample #</b>	<b>Material</b>	<b>Location</b>	<b>Approximate Quantity</b>	<b>Result</b>	<b>Comment</b>
Not Sampled	Pipe Insulation	<b>Exterior:</b> Associated with ACCU	NA	Not Sampled	Insulated piping appears to be non-asbestos foam or fiberglass insulation.
Not Sampled	Silicon Caulking	<b>Exterior:</b> Associated with ACCU, at pipe penetrations	NA	Not Sampled	Caulking appears to be non-asbestos silicon caulking.
<b>LEGEND</b> ND = NONE DETECTED NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 308

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	-	-	No thermostats likely containing Hg were observed during the survey. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Northern side of building	1 ACCU Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b>			
Hg = Mercury			
PCB = Polychlorinated biphenyl			
ACCU = Air Cooled Chiller Unit			

**Building 315**

**TABLE 1**

Asbestos Bulk Sampling Results Table  
 Building 315  
 Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
315-01 315-02 315-03	Sheetrock	<b>Mechanical Room:</b>	NA	Negative	Material tested as non-asbestos.
315-04 315-05 315-06	Sheetrock tape	<b>Mechanical Room:</b>	NA	Negative	Material tested as non-asbestos.
315-07 315-08 315-09	Joint compound	<b>Mechanical Room:</b>	NA	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Exterior:</b> At ACCU	NA	Not Sampled	Insulated piping appears to be non-asbestos foam insulation.
Not Sampled	Pipe and Duct Insulation	<b>Mechanical Room:</b>	NA	Not Sampled	Insulated piping appears to be non-asbestos foam and fiberglass insulation.
<b>LEGEND</b>					
ND = NONE DETECTED					
NA = NOT APPLICABLE					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 315

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostat	<b>Mechanical Room:</b>	1 Count	All thermostats containing mercury switches are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" or investigated to contain no mercury may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Exterior ACCU:</b> Northern side of building	1 ACCU Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

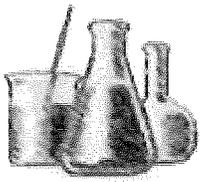
**TABLE 3**

Lead Based Paint Sampling Results Table  
Building 315  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-315-01	White Paint	<b>Mechanical Room:</b> Walls and ceiling	Quantity of material to be impacted will be dependent on Contractors needs	<RL	The white paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
<b>LEGEND</b> NA = NOT APPLICABLE SF = SQUARE FEET LF = LINEAR FEET <RL = LESS THAN REPORTING LIMIT (% BY WEIGHT) FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT					

**Appendix B**  
**Laboratory Sample Reports**

## **Building 14**



# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 22, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95805 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 14  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 14  
 Method: EPA/600/R-93/116

**Batch: B95805**  
 Date Sampled: 4/1/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/9/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-01	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-02	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments: Entire sample used during analysis.		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-03	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-04	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-05	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 14  
 Method: EPA/600/R-93/116

**Batch: B95805**  
 Date Sampled: 4/1/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/9/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-07	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-08	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-09	Brown	0	0	0	0	0	0	0	20	30	0	0	0	50
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-10	Brown	0	0	0	0	0	0	0	20	30	0	0	0	50
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

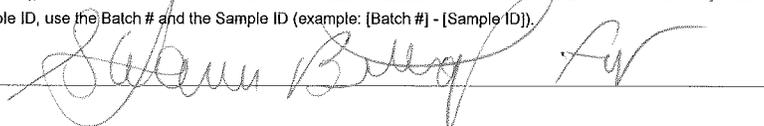
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
14-11	Brown	0	0	0	0	0	0	0	20	30	0	0	0	50
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Kyle Green







Proj. Name: **PNSY - Building 14** Proj. #: **10-1066-4-01**

**B95805**

**Client**  
 Name: **Tighe & Bond** PO #:  
 Address: **446 Main Street, Worcester, MA**

**Contact**  
 Name: **Jason Hayward**  
 Phone: **508-471-9614**  
 Fax:  
 Email: **jhayward@tighebond.com**

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

Relinquished By: *[Signature]* Date / Time: **4/2/15 10:00**  
 Received By: *[Signature]* Date / Time: **4/3/15 9:30 am**

TAT (X)	<input checked="" type="checkbox"/>
Rush	<input type="checkbox"/>
Same Day	<input type="checkbox"/>
Next Day	<input type="checkbox"/>
2 Days	<input type="checkbox"/>
3 Days	<input type="checkbox"/>
4-5 Days	<input checked="" type="checkbox"/>

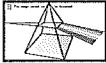
Results	Tel	Fax	Email
			<input checked="" type="checkbox"/>
Final Report	Email	Hard Copy	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**Analysis**

<b>PLM Bulk</b>	
Bulk (600 / R-93 / 116)	<input checked="" type="checkbox"/>
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
<b>Special Instructions</b>	
Stop on First Positive*	<input checked="" type="checkbox"/>
TEM NOB Negative Bulks	
Point Count <10% Asb.	

Line #	Sample ID	Date Collected	Description	Location
1	14-01	4/1/2015	Sealant	
2	14-02	4/1/2015	Sealant	
3	14-03	4/1/2015	Sheetrock	
4	14-04	4/1/2015	Sheetrock	
5	14-05	4/1/2015	Sheetrock	
6	14-06	4/1/2015	Joint Compound	
7	14-07	4/1/2015	Joint Compound	
8	14-08	4/1/2015	Joint Compound	
9	14-09	4/1/2015	Ceiling Panel	
10	14-10	4/1/2015	Ceiling Panel	
11	14-11	4/1/2015	Ceiling Panel	

\*If no selection is made for SFP lab will analyze all samples.



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283563  
**Date received:** 4/3/2015  
**Date analyzed:** 4/6/2015  
**Date of report:** 4/6/2015

**Project #** 10.1066.4  
**P.O.#** N/A  
**Project Site:** PNSY - Building 14

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

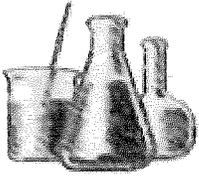
Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 518154	LBP-14-01	4/1/15	White Paint	0.11	0.018	

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

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.



## **Building 18**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

May 27, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 96403 CLIENT PROJECT ID: 10-1066-5-01  
Client Ref: PNSY - Building 18  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 18  
 Method: EPA/600/R-93/116

**Batch: B96403**  
 Date Sampled: 5/6/2015  
 Date Received: 5/11/2015  
 Date Analyzed: 5/13/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-01	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-02	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-03	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-04	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-05	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 18  
 Method: EPA/600/R-93/116

**Batch: B96403**  
 Date Sampled: 5/6/2015  
 Date Received: 5/11/2015  
 Date Analyzed: 5/13/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-07	Beige	0	0	0	0	0	0	0	40	40	0	0	0	20
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-08	Beige	0	0	0	0	0	0	0	40	40	0	0	0	20
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-09	Beige	0	0	0	0	0	0	0	40	40	0	0	0	20
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-10	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-11	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

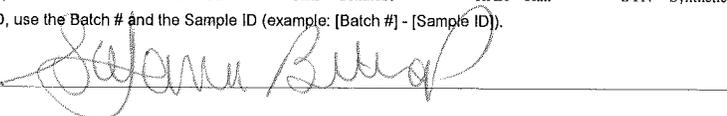
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
18-12	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

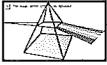
**Analyst:** Stefanie Bishop











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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 284049  
**Date received:** 5/11/2015  
**Date analyzed:** 5/11/2015  
**Date of report:** 5/11/2015

**Project #** 10-1066-5-01  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 18

**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 521080	LBP-18-01	5/6/15	Gray Paint	<RL	0.019	
C 521081	LBP-18-02	5/6/15	Blue / Green Paint	0.16	0.015	

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

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

www.proscience.net  
 general@proscience.net

Rush/<6 Hours  
 Same Day  
 Next Day  
 Turn Around Time Requested

3 Day  
 5 Days

Client

Tighe & Bond

Address Street 446 Main Street  
 Town Worcester MA 01608  
 Project Site Line 1 RNSY - Bldg. 1B  
 Line 2  
 PO  
 Phone  
 FAX  
 Alt/Pager

NELAC analysis

Element gravimetric

TYPE OF ANALYSIS (circle)		SOIL (1g)	TCLP (100g)	Other
DUST WIPES	PAINT (0-1g)			
AIR	TSP			
	PM10			

Pb  Cd  Cr  As  
 Se  Ag  Ba  Fe

For Laboratory Use

Other (please specify under Comments)

QC

BATCH NUMBER  
 C 284049

Please use a separate form for each matrix.

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/ICP Reading
5/6/15	48R-18-01	Grey paint												521080
5/6/15	48R-18-01	Blue/green paint												81

Relinquished By: *Jason Hayward* Date: 5/7/15 Time: 10:00  
 Received By: *Paula Spence-Cole* Date: 5/11/15 Time: 8:15 AM

Comments:

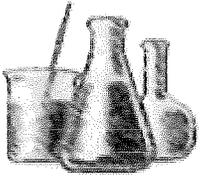
ver 5.3

Field blanks are required for airs and wipes per the sampling method.

Proscience Analytical Services reserves the right to subcontract samples to an appropriately accredited laboratory when we are unable to perform the analysis in house.

PAGE 1 OF 1

## **Building 22**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 30, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 96146 CLIENT PROJECT ID: 10-1066-5-01  
Client Ref: PNSY - Building 22  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 22  
 Method: EPA/600/R-93/116

**Batch: B96146**  
 Date Sampled: 4/14/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-01	Black	0	0	0	0	0	0	0	0	25	0	0	0	75
Description: Shingling Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-02	Black	0	0	0	0	0	0	0	0	25	0	0	0	75
Description: Shingling Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-03	Black	0	0	0	0	0	0	0	0	25	0	0	0	75
Description: Shingling Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-04	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-05	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-06	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 22  
 Method: EPA/600/R-93/116

**Batch: B96146**  
 Date Sampled: 4/14/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-07	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-08	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-09	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-10	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-11	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-12	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 22  
 Method: EPA/600/R-93/116

**Batch: B96146**  
 Date Sampled: 4/14/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-13	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-14	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-15	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-16	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Adhesive Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

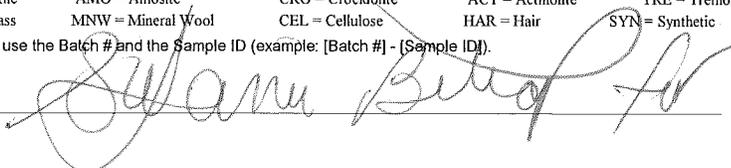
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-17	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Adhesive Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Patricia Weakley







Proj. Name	PNSY - Building 22	Proj. #	10-1066-5-01
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PASI Batch #	B96146
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Client Name	Tighe & Bond	PO #	
Address	446 Main Street, Worcester, MA		

Contact Name	Jason Hayward
Phone	508-471-9614
Fax	
Email	jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

Relinquished By *Jason Hayward*  
 Received By *James Hayward*

Date / Time *4/22/15 10:00 AM*  
 Date / Time *4/22/15 10:05 AM*

TAT (X)	Rush	Same Day	Next Day	2 Days	3 Days	4-5 Days
						X

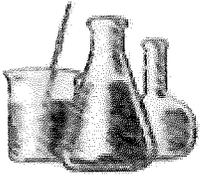
Results	Tel	Fax	Email
			X
Final Report	Email	Hard Copy	
		X	

PLM Bulk	
Bulk (600 / R-93 / 116)	X
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
<b>Special Instructions</b>	
Stop on First Positive*	Y
TEM NOB Negative Bulks	
Point Count <10% Ash.	

\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	Location
1	22-01	4/14/2015	Shingling	
2	22-02	4/14/2015	Shingling	
3	22-03	4/14/2015	Shingling	
4	22-04	4/14/2015	Ceiling panel	
5	22-05	4/14/2015	Ceiling panel	
6	22-06	4/14/2015	Ceiling panel	
7	22-07	4/14/2015	Sheetrock	
8	22-08	4/14/2015	Sheetrock	
9	22-09	4/14/2015	Sheetrock	
10	22-10	4/14/2015	Joint compound	
11	22-11	4/14/2015	Joint compound	
12	22-12	4/14/2015	Joint compound	
13	22-13	4/14/2015	Tape	
14	22-14	4/14/2015	Tape	
15	22-15	4/14/2015	Tape	





# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

May 27, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 96401 CLIENT PROJECT ID: 10-1066-5-01  
Client Ref: PNSY - Building 22  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 22  
 Method: EPA/600/R-93/116

**Batch: B96401**  
 Date Sampled: 5/6/2015  
 Date Received: 5/11/2015  
 Date Analyzed: 5/13/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-18	Black	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Shingling		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-19	Black	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Shingling		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-20	Black	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Shingling		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-21	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-22	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-23	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 22  
 Method: EPA/600/R-93/116

**Batch: B96401**  
 Date Sampled: 5/6/2015  
 Date Received: 5/11/2015  
 Date Analyzed: 5/13/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-24	Black	0	0	0	0	0	0	10	0	10	0	0	0	80
Description: Damp Proof Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-25	Black	0	0	0	0	0	0	10	0	10	0	0	0	80
Description: Damp Proof Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-26	Black	0	0	0	0	0	0	10	0	10	0	0	0	80
Description: Damp Proof Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-27	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Greenish) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-28	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Greenish) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

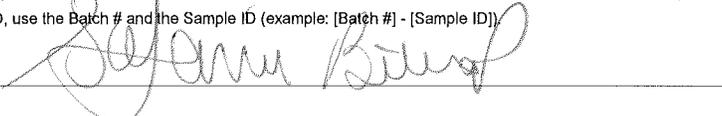
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
22-29	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Greenish) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID])

\* All results are in percentage.

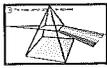
**Analyst:** Stefanie Bishop











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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283842  
**Date received:** 4/22/2015  
**Date analyzed:** 4/24/2015  
**Date of report:** 4/24/2015

**Project #** 10-1066-5  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 22

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 519974	LBP-22-01	4/14/15	White Paint	0.54	0.033	
C 519975	LBP-22-02	4/14/15	Off-White Paint (Offices)	0.75	0.025	
C 519976	LBP-22-03	4/14/15	Off-White Paint (Mechanical Room)	0.060	0.019	

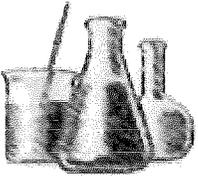
\_\_\_\_\_  
 Simona Peavey, Tech. Manager Chemistry  
 Aimee Cormier, Lab Director

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.



## **Building 27**



# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 30, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefania Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 96136 CLIENT PROJECT ID: 10-1066-5-01  
Client Ref: PNSY - Building 27  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 27  
 Method: EPA/600/R-93/116

**Batch: B96136**  
 Date Sampled: 4/14/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
27-01	Multi	0	0	0	0	0	0	TR	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
27-02	Multi	0	0	0	0	0	0	TR	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
27-03	Multi	0	0	0	0	0	0	TR	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
27-04	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
27-05	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

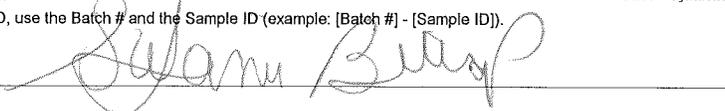
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
27-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Stefanie Bishop





Proj. Name	PNSY - Building 27	Proj. #	10-1066-5-01
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PASI Batch #	1090130
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Client	Name	Tighe & Bond	PO #
	Address	446 Main Street, Worcester, MA	

Contact	Name	Jason Hayward
	Phone	508-471-9614
	Fax	
	Email	jhayward@tighbond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

Relinquished By *Jason Hayward*  
 Received By *Jason Hayward*

Date / Time *4/30/15 10:00 AM*  
 Date / Time *4/23/15 10:05 AM*

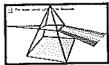
<b>TAT (X)</b>	<input checked="" type="checkbox"/>
Rush	<input type="checkbox"/>
Same Day	<input type="checkbox"/>
Next Day	<input type="checkbox"/>
2 Days	<input type="checkbox"/>
3 Days	<input type="checkbox"/>
4-5 Days	<input checked="" type="checkbox"/>

<b>Results</b>			
Tel	Fax	Email	<input checked="" type="checkbox"/>
<b>Final Report</b>			
Email	Hard Copy		<input checked="" type="checkbox"/>

<b>Analysis</b>	
PLM Bulk	<input checked="" type="checkbox"/>
Bulk (600 / R-93 / 116)	<input checked="" type="checkbox"/>
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
<b>Special Instructions</b>	
Stop on First Positive*	<input checked="" type="checkbox"/>
TEM NOB Negative Bulks	
Point Count <10% Asb.	

Line #	Sample ID	Date Collected	Description	Location
1	27-01	4/14/2015	Sheetrock	
2	27-02	4/14/2015	Sheetrock	
3	27-03	4/14/2015	Sheetrock	
4	27-04	4/14/2015	Joint compound	
5	27-05	4/14/2015	Joint compound	
6	27-06	4/14/2015	Joint compound	

\*If no selection is made for SFP lab will analyze all samples.



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283843  
**Date received:** 4/22/2015  
**Date analyzed:** 4/24/2015  
**Date of report:** 4/24/2015

**Project #** 10-1066-5  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 27

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 519977	LBP-27-01	4/14/15	Light Blue Paint	0.29	0.014	

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

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.



## **Building 29**



# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 29  
 Method: EPA/600/R-93/116

**Batch: B96147**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-01	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-02	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-03	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-04	Red	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Putty Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-05	Red	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Putty Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-06	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 29  
 Method: EPA/600/R-93/116

**Batch: B96147**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-07	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-08	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-09	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-10	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-11	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-12	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 29  
 Method: EPA/600/R-93/116

**Batch: B96147**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-13	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-14	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-15	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-16	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-17	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-18	White	0	0	0	0	0	0	0	0	100	0	0	0	0
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 29  
 Method: EPA/600/R-93/116

**Batch: B96147**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-19	White	0	0	0	0	0	0	0	0	100	0	0	0	0
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-20	White	0	0	0	0	0	0	0	0	100	0	0	0	0
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-21	Brown	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Ceiling Tile Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-22	Brown	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Ceiling Tile Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

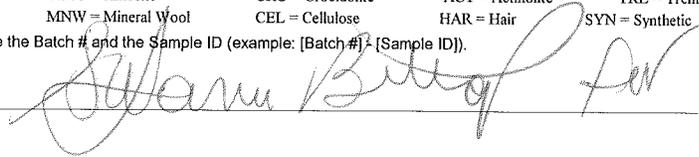
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
29-23	Brown	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Ceiling Tile Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #]-[Sample ID]).

\* All results are in percentage.

Analyst: Patricia Weakley



Client Name: Tigue & Bond, Worcester  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 29

Batch: **B96147**  
 Date Received: 4/22/2015  
 Date Due: 4/29/2015  
 Stop on first pos:  Yes or No

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent							Non-Asbestos Percent							
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
29-01	Sealant	BP	Ø	GN	GN	GN	GN																						100
29-02	Sealant		Ø	GN	GN	GN	GN																						100
29-03	Sealant		Ø	GN	GN	GN	GN																						100
29-04	Putty		Ø	GN	GN	GN	GN																						95
29-05	Putty		Ø	R	NR	R	NR																						95
29-06	Sealant		Ø	R	NR	R	NR																						100
29-07	Sealant		Ø	R	NR	R	NR																						100
29-08	Sealant		Ø	R	NR	R	NR																						100

Comments:

Batch: P96147

Sample ID	Description	Analyst	Stereo Scope					Optical Properties							RI		Asbestos Percent							Non-Asbestos Percent				
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
29-09	Ceiling Panel	∅	G	N	M	T	Y														11B							10
29-10	Ceiling Panel	∅	G	N	M	T	Y														4B							10
29-11	Ceiling Panel	∅	G	N	M	T	Y														4B							10
29-12	Sheetrock	∅	H	N	M	T	Y														4B							95
29-13	Sheetrock	∅	H	N	M	T	Y														4B							95
29-14	Sheetrock	∅	H	N	M	T	Y														4B							95
29-15	Joint Compound	∅	H	N	M	T	Y																					100
29-16	Joint Compound	∅	H	N	M	T	Y																					100
29-17	Joint Compound	∅	H	N	M	T	Y																					100

Comments:



Proj Name **PNSY - Building 29** Proj. # **10-1066-5-01**

**PASI Batch #**  
B96147

**Client**  
Name: Tighe & Bond  
Address: 446 Main Street, Worcester, MA  
PO #

**Contact**  
Name: Jason Hayward  
Phone: 508-471-9614  
Fax: 508-471-9614  
Email: jlhayward@tighetbond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

Relinquished By *Jason Hayward*  
Received By *Jason Hayward*

Date / Time: 4/30/15 10:00  
Date / Time: 4-22-15 10:05am

TAT (X)	
Rush	<input type="checkbox"/>
Same Day	<input type="checkbox"/>
Next Day	<input type="checkbox"/>
2 Days	<input type="checkbox"/>
3 Days	<input type="checkbox"/>
4-5 Days	<input checked="" type="checkbox"/>

Results		
Tel	Fax	Email
		<input checked="" type="checkbox"/>
Final Report		
Email	Hard Copy	
<input checked="" type="checkbox"/>		

**Analysis**

PLM Bulk	
Bulk (600 / R-93 / 116)	<input checked="" type="checkbox"/>
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
Special Instructions	
Stop on First Positive*	<input checked="" type="checkbox"/>
TEM NOB Negative Bulks	
Point Count <10% Asb.	

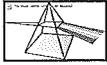
\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	Location
1	29-01	4/15/2015	Sealant	
2	29-02	4/15/2015	Sealant	
3	29-03	4/15/2015	Sealant	
4	29-04	4/15/2015	Putty	
5	29-05	4/15/2015	Putty	
6	29-06	4/15/2015	Sealant	
7	29-07	4/15/2015	Sealant	
8	29-08	4/15/2015	Sealant	
9	29-09	4/15/2015	Ceiling panel	
10	29-10	4/15/2015	Ceiling panel	
11	29-11	4/15/2015	Ceiling panel	
12	29-12	4/15/2015	Sheetrock	
13	29-13	4/15/2015	Sheetrock	
14	29-14	4/15/2015	Sheetrock	
15	29-15	4/15/2015	Joint compound	

Proj. Name	PNSY - Building 29	Proj. #	10-1066-5-01
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PASI Batch #  
B96147

16	29-16	4/15/2015	Joint compound	
17	29-17	4/15/2015	Joint compound	
18	29-18	4/15/2015	Tape	
19	29-19	4/15/2015	Tape	
20	29-20	4/15/2015	Tape	
21	29-21	4/15/2015	Ceiling tile	
22	29-22	4/15/2015	Ceiling tile	
23	29-23	4/15/2015	Ceiling tile	



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

Telephone: 781-935-3212  
Facsimile: 781-932-4857  
Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
Worcester, MA 01608

**Batch #:** C 283844  
**Date received:** 4/22/2015  
**Date analyzed:** 4/24/2015  
**Date of report:** 4/24/2015

**Project #** 10-1066-5  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 29

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 519978	LBP-29-01	4/15/15	Tan / Green Paint	0.14	0.018	

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

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

www.proscience.net  
 general@proscience.net

Turn Around Time Requested  
 Rush / < 6 Hours  Same Day  Next Day  2 Day  3 Day  5 Days

Client: Tishe & Bond

Address: Street 446 main street  
 Town Worcester  
 State/Zip MA 01608  
 Project Site Line 1 PNSY- Dig. 29  
 Line 2 \_\_\_\_\_  
 PO \_\_\_\_\_  
 Phone 508-471-9674  
 FAX \_\_\_\_\_  
 A/R/Pager \_\_\_\_\_  
 Contact Jason Hayward

NELAC analysis

TYPE OF ANALYSIS (circle)

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

Element Pb gravimetric

Cd  Cr  As  
 Se  Ag  Ba  Fe

Other (please specify under Comments)

QC

BATCH NUMBER  
C253544

Please use a separate form for each matrix.

Date and Time Sampled	Field I.D.	Sample Description/Location	Air Sampling Information		Wiped area		ANALYSIS		LABORATORY USE ONLY						
			Start Time	End Time	Start Flowrate	End Flowrate	length (inch)	width (inch)		Area (sq in)	Weight (grams)	AA/ICP Dil'n	Reading	RESULT	Lab I.D.
4/15/15	188-23-01	Tan/Green Paint													619978

Relinquished By: Jason Hayward  
 Received By: Lauren Townsend  
 Date: 4/20/15  
 Date: 4/22/15

Time: 10:00  
 Time: 10:05 AM

Comments:

ver 5.3

Field blanks are required for airs and wipes per the sampling method.  
 ProScience Analytical Services reserves the right to subcontract samples to an appropriately accredited laboratory when we are unable to perform the analysis in house.

## **Building 31**



# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 27, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95803 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 31  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 31  
 Method: EPA/600/R-93/116

**Batch: B95803**  
 Date Sampled: 4/1/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/10/2015  
 Date of Report: 4/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
31-01	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Plaster Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
31-02	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Plaster Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
31-03	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Plaster Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
31-04	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Skim Coat Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
31-05	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Skim Coat Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
31-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Skim Coat Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Kyle Green

Client Name: Tigue & Bond, Worcester  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 31

Batch: B 95803  
 Date Received: 4/3/2015  
 Date Due: 4/10/2015  
 Stop on first pos: Yes or No

Batch: B 95803

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent					Non-Asbestos Percent							
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
31-01	Plaster	KG	OY	YCN																							100
31-02	Plaster	KG	OY	YCN																							100
31-03	Plaster	KG	OY	YCN																							100
31-04	Skim Coat	KG	OY	YCN																							100
31-05	Skim Coat	KG	OY	YCN																							100
31-06	Skim Coat	KG	OY	YCN																							100

Analyzed By / Date: *Yngve Olson* 4-10-15

QC By / Date: *John W. ...* 4/10/15

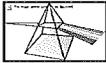
Fax, Email, Verbal Results By / Date: *M.V.H.W.* 4/10/15

# of Samples: 6

*230 ppm*

Comments:





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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283564  
**Date received:** 4/3/2015  
**Date analyzed:** 4/6/2015  
**Date of report:** 4/6/2015

**Project #** 10.1066.4  
**P.O.#** N/A  
**Project Site:** PNSY - Building 31

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 518155	LBP-31-01	4/1/15	Tan Paint	0.053	0.030	
C 518156	LBP-31-01	4/1/15	Grey Paint	<RL	0.022	
C 518157	LBP-31-01	4/1/15	Teal Paint	0.22	0.023	
C 518158	LBP-31-01	4/1/15	White Paint	8.6	0.013	


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

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

Turn Around Time Requested  
 Rush / < 6 Hours  Same Day  Next Day  2 Day  3 Day  5 Days

Client: Tighe & Bond  
 Address: Street 446 main street  
 Town: Worcester State/Zip: MA 01608  
 Project Site Line 1: PNSY - Building 31 Project Number: 10-10664  
 Line 2: \_\_\_\_\_ PO: \_\_\_\_\_  
 Contact: Jason Hayward Phone: 508-471-9674 FAX: \_\_\_\_\_  
 AIR/Pager: \_\_\_\_\_

NELAC analysis

Element gravimetric

TYPE OF ANALYSIS (circle)		SOIL (1g)	TCLP (100g)	Other
DUST WIPES	PAINT (0.1g)			
AIR	TSP			
(min)	PM10			

Please use a separate form for each matrix.

Element:  Pb  Cd  Cr  As  Se  Ag  Ba  Fe  
 Other (please specify under Comments):  QC

BATCH NUMBER

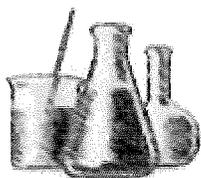
C 283564

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	Volume (liters)	Start Flowrate	End Flowrate	length (inch)	width (inch)	Area (sq in)	Weight (grams)		AA/ICP Reading
4/1/15	LOR-31-01	Tan Paint											518/55
4/1/15	LOR-31-02	Grey Paint											56
4/1/15	LOR-31-03	Teal Paint											57
4/1/15	LOR-31-04	White Paint											58

Relinquished By: Jason Hayward Date: 4/2/15  
 Received By: Michelle Weakley Date: 4/2/15  
 Time: 10:00  
 Time: 9:30am

## **Building 44**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 22, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95807 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 44  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 44  
 Method: EPA/600/R-93/116

**Batch: B95807**  
 Date Sampled: 4/1/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/9/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-01	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-02	Gray	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-03	Gray	0	0	0	0	0	0	0	0	2	0	0	0	98
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-04	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-05	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 44  
 Method: EPA/600/R-93/116

**Batch: B95807**  
 Date Sampled: 4/1/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/9/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-07	White	0	0	0	0	0	0	0	0	90	0	0	0	10
Description: Tape		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-08	White	0	0	0	0	0	0	0	0	90	0	0	0	10
Description: Tape		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-09	White	0	0	0	0	0	0	0	0	90	0	0	0	10
Description: Tape		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-10	Brown	0	0	0	0	0	0	0	0	80	0	0	0	20
Description: Ceiling Tile		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-11	Brown	0	0	0	0	0	0	0	0	80	0	0	0	20
Description: Ceiling Tile		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-12	Brown	0	0	0	0	0	0	0	0	80	0	0	0	20
Description: Ceiling Tile		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 44  
 Method: EPA/600/R-93/116

**Batch: B95807**  
 Date Sampled: 4/1/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/9/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-13	Gray	0	0	0	0	0	0	0	30	30	0	0	0	40
Description: Ceiling Panel														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-14	Gray	0	0	0	0	0	0	0	30	30	0	0	0	40
Description: Ceiling Panel														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-15	Gray	0	0	0	0	0	0	0	30	30	0	0	0	40
Description: Ceiling Panel														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-16	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

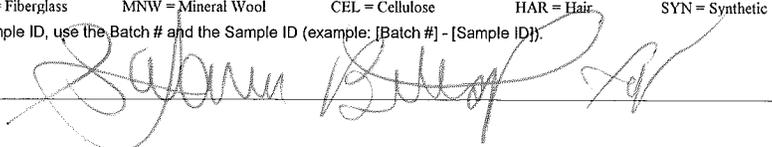
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
44-17	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Kyle Green





Batch: **095807**

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent						
			SSAPE	Color	Homogeneity	Texture	Frable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
44-09	Tape	K60	W	Y	F	N															H2						10
44-10	Ceiling Tile	K60	B	N	F	N															H2						20
44-11	Ceiling Tile	K60	B	N	F	N															H2						20
44-12	Ceiling Tile	K60	B	N	F	N															H2						20
44-13	Ceiling Panel	K60	G	Y	B	Y															I	H2					40
44-14	Ceiling Panel	K60	G	Y	B	Y															I	H2					100
44-15	Ceiling Panel	K60	G	Y	B	Y															I	H2					40
44-16	Sealant	K60	G	Y	B	Y																					100
44-17	Sealant	K60	G	Y	B	Y																					100

Analyzed By / Date: *Kyle Down* 4-9-15

QC By / Date: *[Signature]*

Fax, Email, Verbal Results By / Date: *[Signature]* 4-10-15

# of Samples: 17

Comments:



# ProScience

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

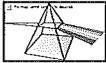
## PLM COC

v4.1

PASI Batch #

B958087

Proj. Name	PNSY - Building 44		Proj. #	10-1066-4-01	
16	44-16	4/1/2015	Sealant		
17	44-17	4/1/2015	Sealant		



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283562  
**Date received:** 4/3/2015  
**Date analyzed:** 4/6/2015  
**Date of report:** 4/6/2015

**Project #** 10.1066.4  
**P.O.#** N/A  
**Project Site:** PNSY - Building 44

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 518152	LBP-44-01	4/1/15	Brown Paint	0.19	0.025	
C 518153	LBP-44-02	4/1/15	White Paint	0.33	0.021	

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

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.



## **Building 59**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 22, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95806 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 59  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 59  
 Method: EPA/600/R-93/116

**Batch: B95806**  
 Date Sampled: 3/31/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/17/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-01	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant - Gray Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-02	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant - Gray Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-03	Beige	0	0	0	0	0	0	30	0	60	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-04	Beige	0	0	0	0	0	0	30	0	60	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-05	Gray	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-06	Gray	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 59  
 Method: EPA/600/R-93/116

**Batch: B95806**  
 Date Sampled: 3/31/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/17/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-07	Gray	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-08	White	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-09	White	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-10	White	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-11	Red	0	0	0	0	0	0	3	0	0	0	0	0	97
Description: Red Putty Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

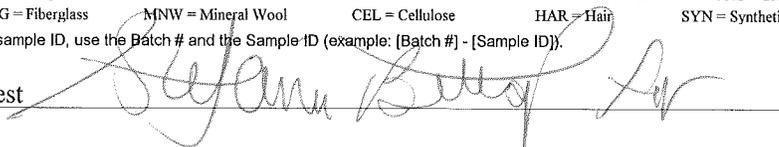
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
59-12	Red	0	0	0	0	0	0	3	0	0	0	0	0	97
Description: Red Putty Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Robert West



Client Name: Tigue & Bond, Worcester  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 59

Batch: B 95806  
 Date Received: 4/3/2015  
 Date Due: 4/10/2015  
 Stop on first pos: Yes or No

Sample ID	Description	Analyst	Stereo Scope					Optical Properties							Asbestos Percent					Non-Asbestos Percent									
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
59-01	Sealant - Gray	ESB	0	GY	N	R	N																						100
59-02	Sealant - Gray		0	GY	N	R	N																						100
59-03	Ceiling Panel		0	SB	N	F	Y																						10
59-04	Ceiling Panel		0	SB	N	F	Y																						10
59-05	Sheetrock		0	GY	N	C	Y																						95
59-06	Sheetrock		0	GY	N	C	Y																						95
59-07	Sheetrock		0	GY	N	C	Y																						95
59-08	Joint Compound		0	BN	N	C	Y																						100

Comments:

SSAPE = Stereo Scope Asbestos Percentage Estimate Birefringence L= less than .010, M=.011-.029, H= greater than .03; Microscope Olympus BH-2, Serial # circle 1-242277, 229027, 235000, 230663

Batch: 95806

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent								
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
59-09	Joint Compound	RB	0	H	N	P	Y																						100
59-10	Joint Compound	LD	0	H	N	P	Y																						100
59-11	Red Putty	LD	0	R	N	R	N																						97
59-12	Red Putty	LD	0	R	N	R	N																						97

Analyzed By / Date: *[Signature]* 4/17/15  
 QC By / Date: *[Signature]* 4/17/15  
 Fax, Email, Verbal Results By / Date: *[Signature]*

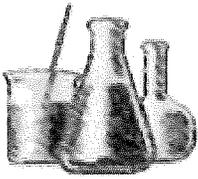
H.W.KF 4-9

# of Samples: 12

Comments:



## **Building 79**



# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 30, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 96135 CLIENT PROJECT ID: 10-1066-5-01  
Client Ref: PNSY - Building 79  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 79  
 Method: EPA/600/R-93/116

**Batch: B96135**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-01	White	0	0	0	0	0	0	0	40	40	0	0	0	20
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-02	White	0	0	0	0	0	0	0	40	40	0	0	0	20
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

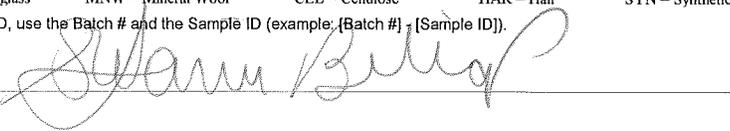
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-03	White	0	0	0	0	0	0	0	40	40	0	0	0	20
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example, [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Stefanie Bishop





Proj. Name	PNSY - Building 79	Proj. #	10-1066-5-01
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PASI Batch # 896135

Client	Name	Tighe & Bond	PO #	
	Address	446 Main Street, Worcester, MA		

Contact	Name	Jason Hayward
	Phone	508-471-9614
	Fax	
	Email	jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

Relinquished By Jason Hayward  
 Received By Jason Hayward

Date / Time 4/20/15  
 Date / Time 4/22/15

10:05 am

TAT (X)	<input checked="" type="checkbox"/>
Rush	<input type="checkbox"/>
Same Day	<input type="checkbox"/>
Next Day	<input type="checkbox"/>
2 Days	<input type="checkbox"/>
3 Days	<input type="checkbox"/>
4-5 Days	<input checked="" type="checkbox"/>

Results		
Tel	Fax	Email
		<input checked="" type="checkbox"/>
Final Report		
Email	Hard Copy	
<input checked="" type="checkbox"/>		

Analysis	
PLM Bulk	<input checked="" type="checkbox"/>
Bulk (600 / R-93 / 116)	
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
Special Instructions	
Stop on First Positive*	<input checked="" type="checkbox"/>
TEM NOB Negative Bulks	
Point Count <10% Asb.	

Line #	Sample ID	Date Collected	Description	Location
1	79-01	4/15/2015	Ceiling Panel	
2	79-02	4/15/2015	Ceiling Panel	
3	79-03	4/15/2015	Ceiling Panel	

\*If no selection is made for SFP lab will analyze all samples.



# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 79  
 Method: EPA/600/R-93/116

**Batch: B96402**  
 Date Sampled: 5/6/2015  
 Date Received: 5/11/2015  
 Date Analyzed: 5/12/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-04	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Greenish)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-05	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Greenish)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-06	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Greenish)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-07	Black	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-08	Black	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-09	Black	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 79  
 Method: EPA/600/R-93/116

**Batch: B96402**  
 Date Sampled: 5/6/2015  
 Date Received: 5/11/2015  
 Date Analyzed: 5/12/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-10	Black	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Shingling		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-11	Black	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Shingling		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

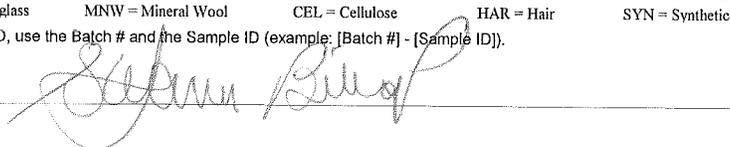
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
79-12	Black	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Shingling		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Stefanie Bishop





Batch: B96402

Sample ID	Description	Analyst	Stereo Scope			Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent									
			SSAPE	Color	Homogeneity	Texture	Frable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
79-12	Shingling																											

Analyzed By / Date:

*Stephen Bush*  
5-12-15

QC By / Date:

Fak, Email, Verbal Results By / Date:

H.W. KA 5-18

# of Samples:

9

Comments:

SSAPE = Stereo Scope Asbestos Percentage Estimate

Birefringence L = less than .010, M = .011-.029, H = greater than .03. Microscope Olympus BH-2, Serial # circle 1 - 242277, 229027, 239000, 230663

Proj. Name	PNSY - Building 79	Proj. #	10-1066-5-01
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PASI Batch #	B96402
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Client	Name	Tighe & Bond	PO #	
	Address	446 Main Street, Worcester, MA		

PLM Bulk	
Bulk (600 / R-93 / 116)	X
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
Special Instructions	
Stop on First Positive*	Y
TEM NOB Negative Bulks	
Point Count <10% Asb.	

Contact	Name	Jason Hayward
	Phone	508-471-9614
	Fax	
	Email	jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

TAT (X)	
Rush	
Same Day	
Next Day	
2 Days	
3 Days	
4-5 Days	X

Results	Tel	Fax	Email
			X
Final Report	Email	Hard Copy	
	X		

Relinquished By Jason Hayward Date / Time 5/3/15 10:00  
 Received By Yvonne Caruth-Cole Date / Time 5/11/15 8:15 AM

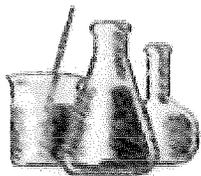
\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	Location
1	79-04	5/6/2015	Roofing cement (greenish)	
2	79-05	5/6/2015	Roofing cement (greenish)	
3	79-06	5/6/2015	Roofing cement (greenish)	
4	79-07	5/6/2015	Roofing cement (black)	
5	79-08	5/6/2015	Roofing cement (black)	
6	79-09	5/6/2015	Roofing cement (black)	
7	79-10	5/6/2015	Shingling	
8	79-11	5/6/2015	Shingling	
9	79-12	5/6/2015	Shingling	





## **Building 153**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 30, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 96137 CLIENT PROJECT ID: 10-1066-5-01  
Client Ref: PNSY - Building 153  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 153  
 Method: EPA/600/R-93/116

**Batch: B96137**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-01	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-02	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-03	White	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-04	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-05	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 153  
 Method: EPA/600/R-93/116

**Batch: B96137**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-07	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-08	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-09	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-10	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-11	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-12	Gray	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 153  
 Method: EPA/600/R-93/116

**Batch: B96137**  
 Date Sampled: 4/15/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-13	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Caulking														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

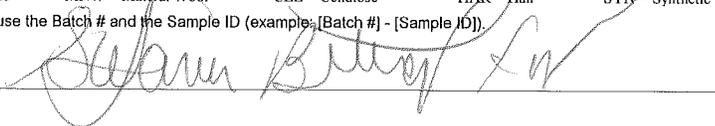
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
153-14	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Caulking														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Patricia Weakley





Batch: B96137

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent						
			SSAPE	Color	Homogeneity	Texture	Frable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other
153-09	Tape		Ø	TN	FY	Ø																4/5	95				5
153-10	Ceiling Panel		Ø	GN	MP	Ø																4/5	4/5				10
153-11	Ceiling Panel		Ø	GN	MP	Ø																4/5	4/5				10
153-12	Ceiling Panel		Ø	GN	MP	Ø																4/5	4/5				10
153-13	Caulking		Ø	GN	RN	Ø																					100
153-14	Caulking		Ø	GN	RN	Ø																					100

Analyzed By / Date: *Patricia M. ...*

QC By / Date: *by ...*

Fax, Email, Verbal Results By / Date: *424-5*

# of Samples: 14

H.W. KA 4-29

Comments:

Proj. Name	PNSY - Building 153	Proj. #	10-1066-5-01
------------	---------------------	---------	--------------

PASI Batch #  
R940134

Client	Name	Tighe & Bond	PO #	
	Address	446 Main Street, Worcester, MA		

Contact	Name	Jason Hayward
	Phone	508-471-9614
	Fax	
Email		jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

Relinquished By *Jason Hayward* Date / Time 4/20/15 10:00  
 Received By *Deven Lawrence* Date / Time 4/22/15 10:05

TAT (X)	
Rush	
Same Day	
Next Day	
2 Days	
3 Days	
4-5 Days	X

Results		
Tel	Fax	Email
		X
Final Report		
Email	Hard Copy	
X		

Analysis	
PLM Bulk	X
Bulk (600 / R-93 / 116)	
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
Special Instructions	
Stop on First Positive*	Y
TEM NOB Negative Bulks	
Point Count <10% Asp.	

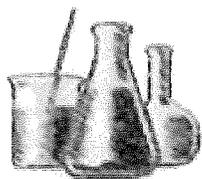
Line #	Sample ID	Date Collected	Description	Location
1	153-01	4/15/2015	Sheetrock	
2	153-02	4/15/2015	Sheetrock	
3	153-03	4/15/2015	Sheetrock	
4	153-04	4/15/2015	Joint compound	
5	153-05	4/15/2015	Joint compound	
6	153-06	4/15/2015	Joint compound	
7	153-07	4/15/2015	Tape	
8	153-08	4/15/2015	Tape	
9	153-09	4/15/2015	Tape	
10	153-10	4/15/2015	Ceiling panel	
11	153-11	4/15/2015	Ceiling panel	
12	153-12	4/15/2015	Ceiling panel	
13	153-13	4/15/2015	Caulking	
14	153-14	4/15/2015	Caulking	

\*If no selection is made for SFP lab will analyze all samples.





## **Building 154**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 22, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95804 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 154  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 154  
 Method: EPA/600/R-93/116

**Batch: B95804**  
 Date Sampled: 3/31/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/10/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
154-01	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
154-02	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
154-03	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
154-04	Gray	0	0	0	0	0	0	0	0	3	0	0	0	97
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
154-05	Gray	0	0	0	0	0	0	0	0	3	0	0	0	97
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
154-06	Gray	0	0	0	0	0	0	0	0	3	0	0	0	97
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 154  
 Method: EPA/600/R-93/116

**Batch: B95804**  
 Date Sampled: 3/31/2015  
 Date Received: 4/3/2015  
 Date Analyzed: 4/10/2015  
 Date of Report: 4/22/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
154-07	Gray	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Putty / Caulking Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes:    CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes:    FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Kyle Green





Proj. Name: PNSY - Building 154  
 Proj. # : 10-1066-4-01

PASI Batch # **B05804**

**Client**  
 Name: Tighe & Bond  
 Address: 446 Main Street, Worcester, MA  
 PO #

**Contact**  
 Name: Jason Hayward  
 Phone: 508-471-9614  
 Fax:  
 Email: jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

TAT (X)
Rush
Same Day
Next Day
2 Days
3 Days
4-5 Days
<b>X</b>

Results		
Tel	Fax	Email
		<b>X</b>
Final Report		
Email	Hard Copy	
<b>X</b>		

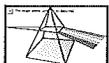
**Analysis**

<b>PLM Bulk</b>	
Bulk (600 / R-93 / 116)	<b>X</b>
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
Special Instructions	
Stop on First Positive*	<b>Y</b>
TEM NOB Negative Bulks	
Point Count <10% Asb.	

Relinquished By: *Jason Hayward*  
 Received By: *[Signature]*  
 Date / Time: *4/2/15 10:00 AM*

\*If no selection is made for SFP Lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	Location
1	154-01	3/31/2015	Joint Compound	
2	154-02	3/31/2015	Joint Compound	
3	154-03	3/31/2015	Joint Compound	
4	154-04	3/31/2015	Sheetrock	
5	154-05	3/31/2015	Sheetrock	
6	154-06	3/31/2015	Sheetrock	
7	154-07	3/31/2015	Putty/Caulking	



**ProScience Analytical Services, Inc.**

22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212

Facsimile: 781-932-4857

Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
Worcester, MA 01608

**Batch #:** C 283566  
**Date received:** 4/3/2015  
**Date analyzed:** 4/6/2015  
**Date of report:** 4/6/2015

**Project #** 10.1066.4  
**P.O.#** N/A  
**Project Site:** PNSY - Building 154

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 518164	LBP-154-01	3/31/15	White Paint	13	0.019	
C 518165	LBP-154-02	3/31/15	Green Paint	<RL	0.034	


---

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

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.



## **Building 156**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 20, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95912 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 156  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 156  
 Method: EPA/600/R-93/116

**Batch: B95912**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
156-01	Multi	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
156-02	Multi	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
156-03	Multi	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
156-04	Yellow	0	0	0	0	0	0	0	0	2	0	0	0	98
Description: Adhesive														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
156-05	Yellow	0	0	0	0	0	0	0	0	2	0	0	0	98
Description: Adhesive														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

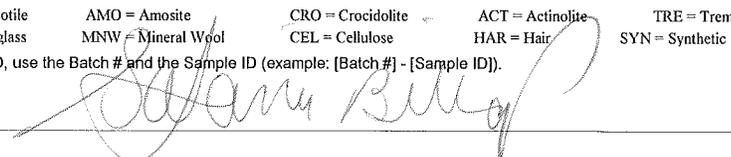
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
156-06	Yellow	0	0	0	0	0	0	0	0	2	0	0	0	98
Description: Adhesive														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Stefanie Bishop



Client Name: Tighe & Bond, Worcester  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 156

Batch: B 95912  
 Date Received: 4/10/2015  
 Date Due: 4/17/2015  
 Stop on first pos: Yes or No

Batch: B 95912

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent					Non-Asbestos Percent								
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
156-01	Sealant	SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156-02	Sealant	SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156-03	Sealant	SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156-04	Adhesive	SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156-05	Adhesive	SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156-06	Adhesive	SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Analyzed By / Date: Supernu Bond QC By / Date: SP Fax, Email, Verbal Results By / Date: H.W. KA 4-17 # of Samples: 6

*Supernu Bond*  
 4-17-07

Comments:

*B95912*

Proj. Name PNSY - Building 156

Proj. # 10-1066-4-01

**Client**  
 Name Tighe & Bond  
 Address 446 Main Street, Worcester, MA

PO #

**PLM Bulk**

Bulk (600 / R-93 / 116) **X**  
 Wipes (EPA 600)

**Contact**  
 Name Jason Hayward  
 Phone 508-471-9614  
 Fax  
 Email jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

**TAT (X)**

**Results**

Point Count (EPA 600)  
 Soil (EPA)  
 NOB (NY-ELAP)

**Special Instructions**

Date / Time *4/8/15 10:00*  
 Date / Time *4.10.15 1:05 PM*

**Final Report**

Stop on First Positive\* **Y**

Rush  
 Same Day  
 Next Day  
 2 Days  
 3 Days  
 4-5 Days

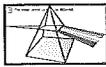
**X**

**X**

\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description
1	156-01	4/8/2015	Sealant
2	156-02	4/8/2015	Sealant
3	156-03	4/8/2015	Sealant
4	156-04	4/8/2015	Adhesive
5	156-05	4/8/2015	Adhesive
6	156-06	4/8/2015	Adhesive

**Location**



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

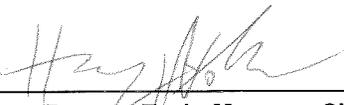
**Batch #:** C 283651  
**Date received:** 4/10/2015  
**Date analyzed:** 4/13/2015  
**Date of report:** 4/13/2015

**Project #** 10-1066-4  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 156

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 518708	LBP-156-01	4/8/15	White Paint	0.065	0.030	

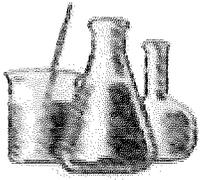
  
 \_\_\_\_\_  
**Simona Peavey, Tech. Manager Chemistry**  
**Aimee Cormier, Lab Director**

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.



**Building 170**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 20, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95913 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 170  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 170  
 Method: EPA/600/R-93/116

**Batch: B95913**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-01	Silver	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Silver)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-02	Silver	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Silver)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-03	Silver	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Silver)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-04	Multi	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Shingling														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-05	Multi	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Shingling														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-06	Multi	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Shingling														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 170  
 Method: EPA/600/R-93/116

**Batch: B95913**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-07	Black	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-08	Black	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-09	Black	0	0	0	0	0	0	0	0	25	0	0	0	75
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-10	Black	0	0	0	0	0	0	0	0	25	0	0	0	75
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-11	Black	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-12	Multi	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 170  
 Method: EPA/600/R-93/116

**Batch: B95913**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-13	Multi	0	0	0	0	0	0	0	0	15	0	0	0	85
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-14	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-15	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-16	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-17	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-18	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 170  
 Method: EPA/600/R-93/116

**Batch: B95913**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-19	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-20	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-21	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-22	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-23	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-24	Beige	0	0	0	0	0	0	0	40	50	0	0	0	10
Description: Ceiling Panel		Is asbestos present? No. Analyzed: Yes												
Location: N/A														
Comments:														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 170  
 Method: EPA/600/R-93/116

**Batch: B95913**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-25	Beige	0	0	0	0	0	0	0	40	50	0	0	0	10
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

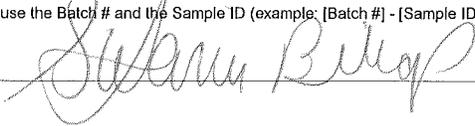
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
170-26	Beige	0	0	0	0	0	0	0	40	50	0	0	0	10
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes:    CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes:    FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Stefanie Bishop







Batch: **P95913**

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					Asbestos Percent					Non-Asbestos Percent										
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
170-18	Joint Compound																											
170-19	Joint Compound																											
170-20	Joint Compound																											
170-21	Sealant																											
170-22	Sealant																											
170-23	Sealant																											
170-24	Ceiling Panel																											
170-25	Ceiling Panel																											
170-26	Ceiling Panel																											

Analyzed By / Date:

QC By / Date:

Fax, Email, Verbal Results By / Date:

# of Samples: 26

Comments:

*[Handwritten signature]*  
*[Handwritten signature]*  
 4-16-75

H.W. KA 4-17

Proj. Name **PNSY - Building 170** Proj. # **10-1066-4-01**

**Client** Name **Tighe & Bond** PO #   
 Address **446 Main Street, Worcester, MA**

**Contact** Name **Jason Hayward** Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.  
 Phone **508-471-9614**  
 Fax   
 Email **jhayward@tighebond.com**

Relinquished By *John Taylor* Date/Time *4/15 10:00*  
 Received By *Steven Jovanovic* Date/Time *4/15 1:05 PM*

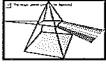
Line #	Sample ID	Date Collected	Description	TAT (X)	Results	Analysis	Special Instructions	Location
1	170-01	4/8/2015	Roofing cement (silver)		Tel Fax Email	Soil (EPA)	Point Count (EPA 600)	
2	170-02	4/8/2015	Roofing cement (silver)		Next Day	NOB (NY-ELAP)	Wipes (EPA 600)	
3	170-03	4/8/2015	Roofing cement (silver)		2 Days	Final Report	Point Count (EPA 600)	
4	170-04	4/8/2015	Shingling		3 Days	Email Hard Copy	NOB (NY-ELAP)	
5	170-05	4/8/2015	Shingling		4-5 Days	X	Special Instructions	
6	170-06	4/8/2015	Shingling	X		Stop on First Positive*		
7	170-07	4/8/2015	Roofing cement (black)			TEM NOB Negative Bulks		
8	170-08	4/8/2015	Roofing cement (black)			Point Count <10% Asb.		
9	170-09	4/8/2015	Roofing cement (black)					
10	170-10	4/8/2015	Roofing cement					
11	170-11	4/8/2015	Roofing cement					
12	170-12	4/8/2015	Sheetrock					
13	170-13	4/8/2015	Sheetrock					
14	170-14	4/8/2015	Sheetrock					
15	170-15	4/8/2015	Tape					

Proj. Name PNSY - Building 170

Proj. # 10-1066-4-01

B95913

16	170-16	4/8/2015	Tape
17	170-17	4/8/2015	Tape
18	170-18	4/8/2015	Joint compound
19	170-19	4/8/2015	Joint compound
20	170-20	4/8/2015	Joint compound
21	170-21	4/8/2015	Sealant
22	170-22	4/8/2015	Sealant
23	170-23	4/8/2015	Sealant
24	170-24	4/8/2015	Ceiling panel
25	170-25	4/8/2015	Ceiling panel
26	170-26	4/8/2015	Ceiling panel



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

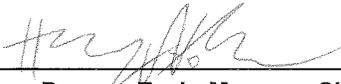
**Batch #:** C 283652  
**Date received:** 4/10/2015  
**Date analyzed:** 4/13/2015  
**Date of report:** 4/13/2015

**Project #** 10-1066-4  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 170

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 518709	LBP-170-01	4/8/15	Tan Paint	0.74	0.023	
C 518710	LBP-170-02	4/8/15	White Paint	0.15	0.020	

  
 \_\_\_\_\_  
**Simona Peavey, Tech. Manager Chemistry**  
**Aimee Cormier, Lab Director**

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

Turn Around Time Requested  
 Rush/≤6 Hours  Same Day  Next Day  2 Day  3 Day  5 Days

Client

Tight & Bond

Address Street 446 main street  
 Town Worcester State/Zip MA 01608  
 Project Line 1 PNSY - 0189.170 Project Number 10-1066-4  
 Line 2 \_\_\_\_\_ PO \_\_\_\_\_  
 Contact Jason Hayward Phone 508-471-9614 FAX \_\_\_\_\_  
 AirtPager \_\_\_\_\_

NELAC analysis

TYPE OF ANALYSIS (circle)

DUST WIPES	PAINT (0.1g)	SOIL (1g)
AIR	TSP	TCLP (100g)
(min)	PM10	Other

Element gravimetric

Pb  Cd  Cr  As

Se  Ag  Ba  Fe

Other (please specify under Comments)

QC

BATCH NUMBER

C 282662

Please use a separate form for each matrix.

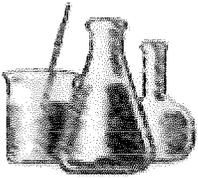
ASTM E1792 FOR LABORATORY USE ONLY

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	length (inch)	width (inch)		Area (sq in)	Weight (grams)	AA/ICP	Reading	RESULT
4/8/15	LOB-170-01	Tan Paint												018709
4/8/15	LOB-170-02	white Paint												10

Relinquished By: [Signature] Date: 4/9/15 Time: 10:00  
 Received By: [Signature] Date: 4.10.15 Time: 1:05 PM

Comments: \_\_\_\_\_ PAGE 1 OF 1

**Building 238**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 30, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 96141 CLIENT PROJECT ID: 10-1066-5-01  
Client Ref: PNSY - Building 238  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 238  
 Method: EPA/600/R-93/116

**Batch: B96141**  
 Date Sampled: 4/14/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-01	Black	0	0	0	0	0	0	25	0	2	0	0	0	73
Description: Shingling														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-02	Black	0	0	0	0	0	0	25	0	2	0	0	0	73
Description: Shingling														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-03	Black	0	0	0	0	0	0	25	0	2	0	0	0	73
Description: Shingling														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-04	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-05	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-06	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 238  
 Method: EPA/600/R-93/116

**Batch: B96141**  
 Date Sampled: 4/14/2015  
 Date Received: 4/22/2015  
 Date Analyzed: 4/24/2015  
 Date of Report: 4/30/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-07	Black	0	0	0	0	0	0	25	0	2	0	0	0	73
Description: Roofing Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-08	Black	0	0	0	0	0	0	25	0	2	0	0	0	73
Description: Roofing Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-09	Black	0	0	0	0	0	0	25	0	2	0	0	0	73
Description: Roofing Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-10	Brown	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Insulation Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-11	Brown	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Insulation Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

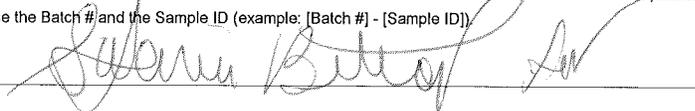
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
238-12	Brown	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Insulation Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID])

\* All results are in percentage.

Analyst: Patricia Weakley



Client Name: Tighe & Bond, Worcester  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 238

Batch: B 96141  
 Date Received: 4/22/2015  
 Date Due: 4/29/2015  
 Stop on first pos: Yes or No

Sample ID	Description	Analyst	Stereo Scope				Optical Properties							RI		Asbestos Percent						Non-Asbestos Percent					
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
238-01	Shingling	PP	BK	BK	N	M	NTN	PP												I	HB	2					13
238-02	Shingling	PP	BK	BK	N	M	NTN	PP												I	HB	2					13
238-03	Shingling	PP	BK	BK	N	M	NTN	PP												I	HB	2					13
238-04	Roofing Cement (Black)	PP	BK	BK	N	M	NTN	PP												I	HB	2					100
238-05	Roofing Cement (Black)	PP	BK	BK	N	M	NTN	PP												I	HB	2					100
238-06	Roofing Cement (Black)	PP	BK	BK	N	M	NTN	PP												I	HB	2					100
238-07	Roofing	PP	BK	BK	N	M	NTN	PP												I	HB	2					13
238-08	Roofing	PP	BK	BK	N	M	NTN	PP												I	HB	2					13

Comments:

SSAPE = Stereo Scope Asbestos Percentage Estimate Birefringence L= less than .010, M= .011-.029, H= greater than .03; Microscope Olympus BH-2, Serial # circle 1-242277, 229027, 235000, 230663

201850

Batch: **B 96141**

Sample ID	Description	Analyst	Stereoscope					Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent									
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous		
238-09	Roofing	Ø	Ø	N	M/N																11B									
238-10	Insulation	Ø	Ø	N	F																Ø	11B								
238-11	Insulation	Ø	Ø	R	N	F															Ø	11B								
238-12	Insulation	Ø	Ø	R	N	F															Ø	11B								

Analyzed By / Date: *Stevie W. Bentley*  
4/3/98

QC By / Date:

Fax, Email, Verbal Results By / Date:

# of Samples:

12

*Shy-2475*      *H.W. KK 4-29*

Comments:

Proj. Name **PNSY - Building 238** Proj. # **10-1066-5-01**

**PASI Batch #** PA614

**Client**  
 Name: **Tighe & Bond**  
 Address: **446 Main Street, Worcester, MA**  
 PO #

**Contact**  
 Name: **Jason Hayward**  
 Phone: **508-471-9614**  
 Fax:  
 Email: **jhayward@tighebond.com**

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

Relinquished By [Signature] Date / Time 4/30/15 10:00 AM  
 Received By [Signature] Date / Time 4/22/15 10:05 AM

TAT (X)	<input checked="" type="checkbox"/>
Rush	<input type="checkbox"/>
Same Day	<input type="checkbox"/>
Next Day	<input type="checkbox"/>
2 Days	<input type="checkbox"/>
3 Days	<input type="checkbox"/>
4-5 Days	<input checked="" type="checkbox"/>

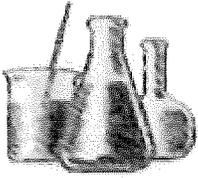
Results	Tel	Fax	Email
			<input checked="" type="checkbox"/>
Final Report	Email	Hard Copy	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**Analysis**

PLM Bulk	<input checked="" type="checkbox"/>
Bulk (600 / R-93 / 116)	<input checked="" type="checkbox"/>
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
Special Instructions	
Stop on First Positive*	<input checked="" type="checkbox"/>
TEM NOB Negative Bulks	
Point Count <10% Asb.	

Line #	Sample ID	Date Collected	Description	Location
1	238-01	4/14/2015	Shingling	
2	238-02	4/14/2015	Shingling	
3	238-03	4/14/2015	Shingling	
4	238-04	4/14/2015	Roofing cement (black)	
5	238-05	4/14/2015	Roofing cement (black)	
6	238-06	4/14/2015	Roofing cement (black)	
7	238-07	4/14/2015	Roofing	
8	238-08	4/14/2015	Roofing	
9	238-09	4/14/2015	Roofing	
10	238-10	4/14/2015	Insulation	
11	238-11	4/14/2015	Insulation	
12	238-12	4/14/2015	Insulation	

## **Building 299**



# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 20, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95910 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 299  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 299  
 Method: EPA/600/R-93/116

**Batch: B95910**  
 Date Sampled: 4/7/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-01	Black	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Shingling Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-02	Black	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Shingling Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-03	Black	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Shingling Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-04	Black	0	0	0	0	0	0	10	0	0	0	0	0	90
Description: Roofing Layer (Top) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-05	Black	0	0	0	0	0	0	15	0	0	0	0	0	85
Description: Roofing Layer (Top) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-06	Black	0	0	0	0	0	0	10	0	0	0	0	0	90
Description: Roofing Layer (Top) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 299  
 Method: EPA/600/R-93/116

**Batch: B95910**  
 Date Sampled: 4/7/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-07	Black	0	0	0	0	0	0	10	0	0	0	0	0	90
Description: Roofing Layer (Bottom)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-08	Black	0	0	0	0	0	0	10	0	0	0	0	0	90
Description: Roofing Layer (Bottom)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-09	Black	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Roofing Layer (Bottom)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-10	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-11	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-12	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 299  
 Method: EPA/600/R-93/116

**Batch: B95910**  
 Date Sampled: 4/7/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-13	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

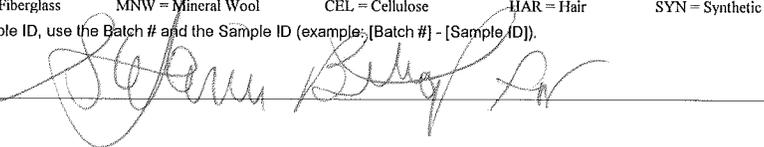
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
299-14	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes:    CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes:    FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Kyle Green





Batch: **P95910**

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent					Non-Asbestos Percent							
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
299-09	Roofing Layer (Bottom)	K6 D	B K	N	T	N														29							
299-10	Roofing Cement	K6 B	B K	Y	T	N																					95
299-11	Roofing Cement	K6 O	B K	Y	T	2																					100
299-12	Roofing Cement	K6 O	B K	Y	T	2																					100
299-13	Sealant	K6 O	B K	Y	R	2																					100
299-14	Sealant	K6 O	B K	Y	R	2																					100

Analyzed By / Date: *Kyle Brown* 4-16-15  
 QC By / Date: *Patricia [Signature]* 4/16/15  
 Verbal Results By / Date: *H.W.K.A* 4-17

# of Samples: 14

Comments:

*B95910*

Proj. Name **PNSY - Building 299** Proj. # **10-1066-4-01**

**Client**  
 Name **Tighe & Bond**  
 Address **446 Main Street, Worcester, MA**

PO #

**PLM Bulk**

Bulk (600 / R-93 / 116) **X**  
 Wipes (EPA 600)

**Contact**  
 Name **Jason Hayward**  
 Phone **508-471-9614**  
 Fax  
 Email **jhayward@tighebond.com**

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

**TAT (X)**

**Results**

Point Count (EPA 600)  
 Soil (EPA)  
 NOB (NY-ELAP)

**Special Instructions**

Relinquished By *Jason Hayward*  
 Received By *Deven Hayward*

Date / Time *4/9/15 10:00*  
 Date / Time *4.10.15 1:05 pm*

Rush  
 Same Day  
 Next Day  
 2 Days  
 3 Days  
 4-5 Days

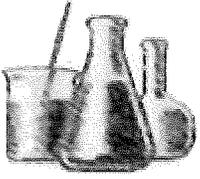
Final Report  
 Email Hard Copy

Stop on First Positive\*  
 TEM NOB Negative Bulks  
 Point Count <10% Asb.

\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	TAT (X)	Results	Analysis	Special Instructions
1	299-01	4/7/2015	Shingling				
2	299-02	4/7/2015	Shingling				
3	299-03	4/7/2015	Shingling				
4	299-04	4/7/2015	Roofing layer (top)				
5	299-05	4/7/2015	Roofing layer (top)				
6	299-06	4/7/2015	Roofing layer (top)				
7	299-07	4/7/2015	Roofing layer (bottom)				
8	299-08	4/7/2015	Roofing layer (bottom)				
9	299-09	4/7/2015	Roofing layer (bottom)				
10	299-10	4/7/2015	Roofing cement				
11	299-11	4/7/2015	Roofing cement				
12	299-12	4/7/2015	Roofing cement				
13	299-13	4/7/2015	Sealant				
14	299-14	4/7/2015	Sealant				

**Building 300**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

June 25, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Patricia Weakley, Optical Asbestos Manager  
Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 97013 CLIENT PROJECT ID: 10.1066-4  
Client Ref: PNSY - Bldg. 300  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10.1066-4  
 Client Reference: PNSY - Bldg. 300  
 Method: EPA/600/R-93/116

**Batch: B97013**  
 Date Sampled: 6/18/2015  
 Date Received: 6/19/2015  
 Date Analyzed: 6/25/2015  
 Date of Report: 6/25/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-01	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-02	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-03	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-01A	Black	0	0	0	0	0	0	0	0	0	0	10	0	90
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-02A	Black	0	0	0	0	0	0	0	0	0	0	10	0	90
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-03A	Black	0	0	0	0	0	0	0	0	0	0	10	0	90
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10.1066-4  
 Client Reference: PNSY - Bldg. 300  
 Method: EPA/600/R-93/116

**Batch: B97013**  
 Date Sampled: 6/18/2015  
 Date Received: 6/19/2015  
 Date Analyzed: 6/25/2015  
 Date of Report: 6/25/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-04	Multi	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Tile Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-05	Multi	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Tile Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
300-06	Multi	0	0	0	0	0	0	45	0	45	0	0	0	10
Description: Ceiling Tile Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes:    CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes:    FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

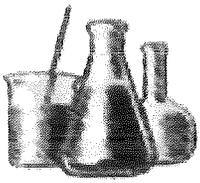
Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Patricia Weakley







# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

July 09, 2015

Dear Jason Hayward,

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 or 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 15242 CLIENT PROJECT ID: 10.1066-4  
Client Ref: PNSY - Bldg. 300  
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 #: 10.1066-4  
 Client Reference: PNSY - Bldg. 300  
 PO #: 10.1066.4  
 Client #: 259  
 Client Name: Tighe & Bond, Worcester

Batch: NT 15242  
 Method: NOB  
 Date Received: 6/25/2015  
 Date Analyzed: 7/3/2015  
 Date of Report: 7/9/2015

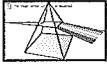
LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types						% Other Non-asp.	% Organic	% Carb.	Total % Asbestos	Analyzed / Preped /	
					CHR	AMO	ACT	CRO	ANT	TRE					Charged	Charged
NT116002	300-03	Floor Tile		.3177	.00	.00	.00	.00	.00	.00	5.83	17.78	76.39	ND	Yes	No

**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.**  
 22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 284475  
**Date received:** 6/19/2015  
**Date analyzed:** 6/23/2015  
**Date of report:** 6/23/2015

**Project #** 10.1066.4  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 300

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

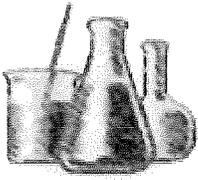
Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 523657	300-LBP-01	6/18/15	Off White Paint	<RL	0.018	

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

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.



**Building 306**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 20, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95911 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 306  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 306  
 Method: EPA/600/R-93/116

**Batch: B95911**  
 Date Sampled: 4/7/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-01	Gray	0	0	0	0	0	0	2	0	2	0	0	0	96
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-02	Gray	0	0	0	0	0	0	0	0	2	0	0	0	98
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-03	Gray	0	0	0	0	0	0	2	0	2	0	0	0	96
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-04	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-05	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 306  
 Method: EPA/600/R-93/116

**Batch: B95911**  
 Date Sampled: 4/7/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-07	White	0	0	0	0	0	0	0	0	80	0	0	0	20
Description: Tape														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-08	White	0	0	0	0	0	0	0	0	80	0	0	0	20
Description: Tape														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-09	White	0	0	0	0	0	0	0	0	80	0	0	0	20
Description: Tape														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-10	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Putty														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-11	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Putty														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-12	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 306  
 Method: EPA/600/R-93/116

**Batch: B95911**  
 Date Sampled: 4/7/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/16/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-13	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Sealant														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-14	Red	0	0	0	0	0	0	15	0	0	0	0	0	85
Description: Putty														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

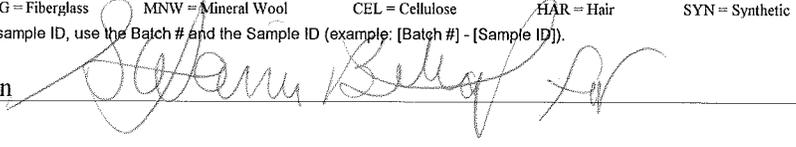
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
306-15	Red	0	0	0	0	0	0	5	0	0	0	0	0	95
Description: Putty														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

**Analyst:** Kyle Green







*B 95911*

Proj. Name PNSY - Building 306

Proj. # 10-1066-4-01

**Client**  
 Name Tighe & Bond  
 Address 446 Main Street, Worcester, MA

PO #

**PLM Bulk**

Bulk (600 / R-93 / 116) **X**  
 Wipes (EPA 600)

**Contact**  
 Name Jason Hayward  
 Phone 508-471-9614  
 Fax  
 Email jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

**TAT (X)**

**Results**

**Analysis**

**Special Instructions**

Relinquished By *Jason Hayward*  
 Received By *Steve Jones*

Date / Time *4/9/15 10:00*  
 Date / Time *4.10.15 1:05 PM*

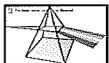
Rush  
 Same Day  
 Next Day  
 2 Days  
 3 Days  
 4-5 Days

Final Report  
 Email Hard Copy

Point Count (EPA 600)  
 Soil (EPA)  
 NOB (NY-ELAP)  
 Stop on First Positive\*  
 TEM NOB Negative Bulks  
 Point Count <10% Asb.

\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	TAT	Final Report	Special Instructions
1	306-01	4/7/2015	Sheetrock			Y
2	306-02	4/7/2015	Sheetrock			
3	306-03	4/7/2015	Sheetrock			
4	306-04	4/7/2015	Joint compound			
5	306-05	4/7/2015	Joint compound			
6	306-06	4/7/2015	Joint compound			
7	306-07	4/7/2015	Tape			
8	306-08	4/7/2015	Tape			
9	306-09	4/7/2015	Tape			
10	306-10	4/7/2015	Putty			
11	306-11	4/7/2015	Putty			
12	306-12	4/7/2015	Sealant			
13	306-13	4/7/2015	Sealant			
14	306-14	4/7/2015	Putty			
15	306-15	4/7/2015	Putty			



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283653  
**Date received:** 4/10/2015  
**Date analyzed:** 4/13/2015  
**Date of report:** 4/13/2015

**Project #** 10-1066-4  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 306

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

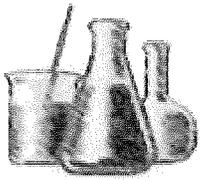
Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 518711	LBP-306-01	4/7/15	Tan Paint	<RL	0.027	
C 518712	LBP-306-02	4/7/15	White Paint	<RL	0.028	

  
 \_\_\_\_\_ for  
**Simona Peavey, Tech. Manager Chemistry**  
**Aimee Cormier, Lab Director**

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.



**Building 315**



# ProScience Analytical Services, Inc

---

Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

April 20, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95891 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY- Building 315  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY- Building 315  
 Method: EPA/600/R-93/116

**Batch: B95891**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/15/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-01	Gray	0	0	0	0	0	0	0	0	25	0	0	0	75
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-02	Gray	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-03	Gray	0	0	0	0	0	0	0	0	25	0	0	0	75
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-04	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-05	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-06	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY- Building 315  
 Method: EPA/600/R-93/116

**Batch: B95891**  
 Date Sampled: 4/8/2015  
 Date Received: 4/10/2015  
 Date Analyzed: 4/15/2015  
 Date of Report: 4/20/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-07	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-08	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

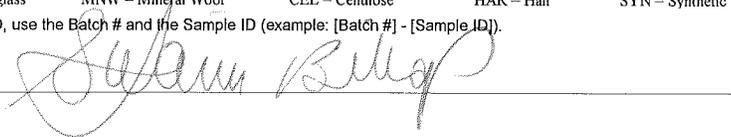
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
315-09	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Stefanie Bishop



**Client Name:** Tighe & Bond, Worcester  
**Client Project #:** 10-1066-4-01  
**Client Reference:** PNSY - Building 315

**Batch:** 95891  
**Date Received:** 4/9/2015  
**Date Due:** 4/10/2015  
**Stop on first pos.:** Yes or No

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent							Non-Asbestos Percent							
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
315-01	Sheetrock	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						
315-02	Sheetrock	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						
315-03	Sheetrock	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						
315-04	Tape	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						
315-05	Tape	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						
315-06	Tape	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						
315-07	Joint Compound	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						
315-08	Joint Compound	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]						

Comments:





Batch: B95891

Sample ID	Description	Stereo Scope					Optical Properties					Asbestos Percent					Non-Asbestos Percent													
		Analyst	SSAPE	Color	Homogeneity	Texture	Frangible	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous		
315-09	Joint Compound	EM		NH	N	C	Y																							100

Analyzed By / Date:

*Handwritten signature and date*

QC By / Date:

*Handwritten signature and date*

Fax, Email, Verbal Results By / Date:

# of Samples:

9

*Save for Archive BB*

Comments:

Proj. Name **PNSY - Building 315**

Proj. # **10-1066-4-01**

*B95891*

**Client**  
 Name **Tighe & Bond**  
 Address **446 Main Street, Worcester, MA**

PO #

**PLM Bulk**

Bulk (600 / R-93 / 116)

Wipes (EPA 600)

Point Count (EPA 600)

Soil (EPA)

NOB (NY-ELAP)

**Special Instructions**

Stop on First Positive\*

TEM NOB Negative Bulks

Point Count <10% Asb.

**Y**

**Contact**  
 Name **Jason Hayward**  
 Phone **508-471-9614**  
 Fax  
 Email **jhayward@tighebond.com**

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

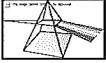
**TAT (X)**  
 Rush  
 Same Day  
 Next Day  
 2 Days  
 3 Days  
 4-5 Days

**Results**  
 Tel Fax Email  
**X**  
**Final Report**  
 Email Hard Copy

Relinquished By *John Hayward*  
 Received By *John Hayward*  
 Date / Time *4/9/15 10:00 AM*  
 Date / Time *4.10.15 1:05 PM*

\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	TAT	Final Report	Analysis	Special Instructions
1	315-01	4/8/2015	Sheetrock	X	X	TEM NOB Negative Bulks	Stop on First Positive*
2	315-02	4/8/2015	Sheetrock			TEM NOB Negative Bulks	Stop on First Positive*
3	315-03	4/8/2015	Sheetrock			Point Count <10% Asb.	Stop on First Positive*
4	315-04	4/8/2015	Tape				
5	315-05	4/8/2015	Tape				
6	315-06	4/8/2015	Tape				
7	315-07	4/8/2015	Joint compound				
8	315-08	4/8/2015	Joint compound				
9	315-09	4/8/2015	Joint compound				



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283654  
**Date received:** 4/10/2015  
**Date analyzed:** 4/13/2015  
**Date of report:** 4/13/2015

**Project #** 10-1066-4  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 315

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 518713	LBP-315-01	4/8/15	White Paint	<RL	0.016	

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

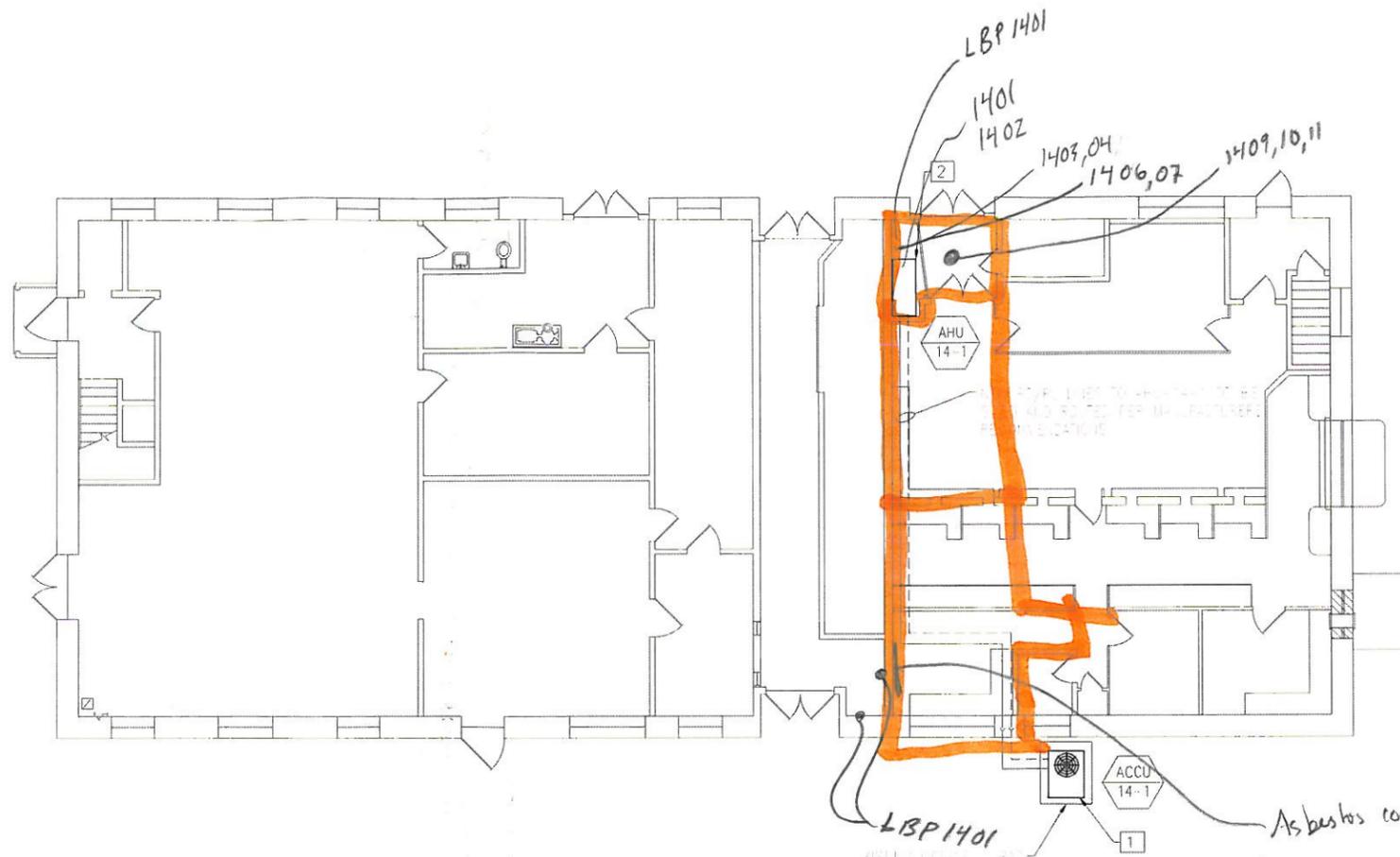
Unless otherwise indicated, all samples were received in acceptable condition.  
 All result apply only to the samples as received and are accurate to no more than two significant figures.  
Unless otherwise indicated, all the quality control criteria for the method above have been met.  
**RL-Reporting Limit(%by weight)** Note on units: mg/Kg is the same as ppm by weight.



## **Appendix C**

# **Building Floor Plans**

## **Building 14**



BUILDING 14 HVAC FIRST FLOOR NEW PLAN  
1/8" = 1'-0"



GENERAL SHEET NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NAVY FACILITIES ENGINEERING COMMAND (NAFAC) STANDARD SPECIFICATIONS FOR MECHANICAL AND ELECTRICAL WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL JURISDICTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL JURISDICTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL JURISDICTION.



PRIMARY INSTRUCTION



NEW WORK KEYNOTES

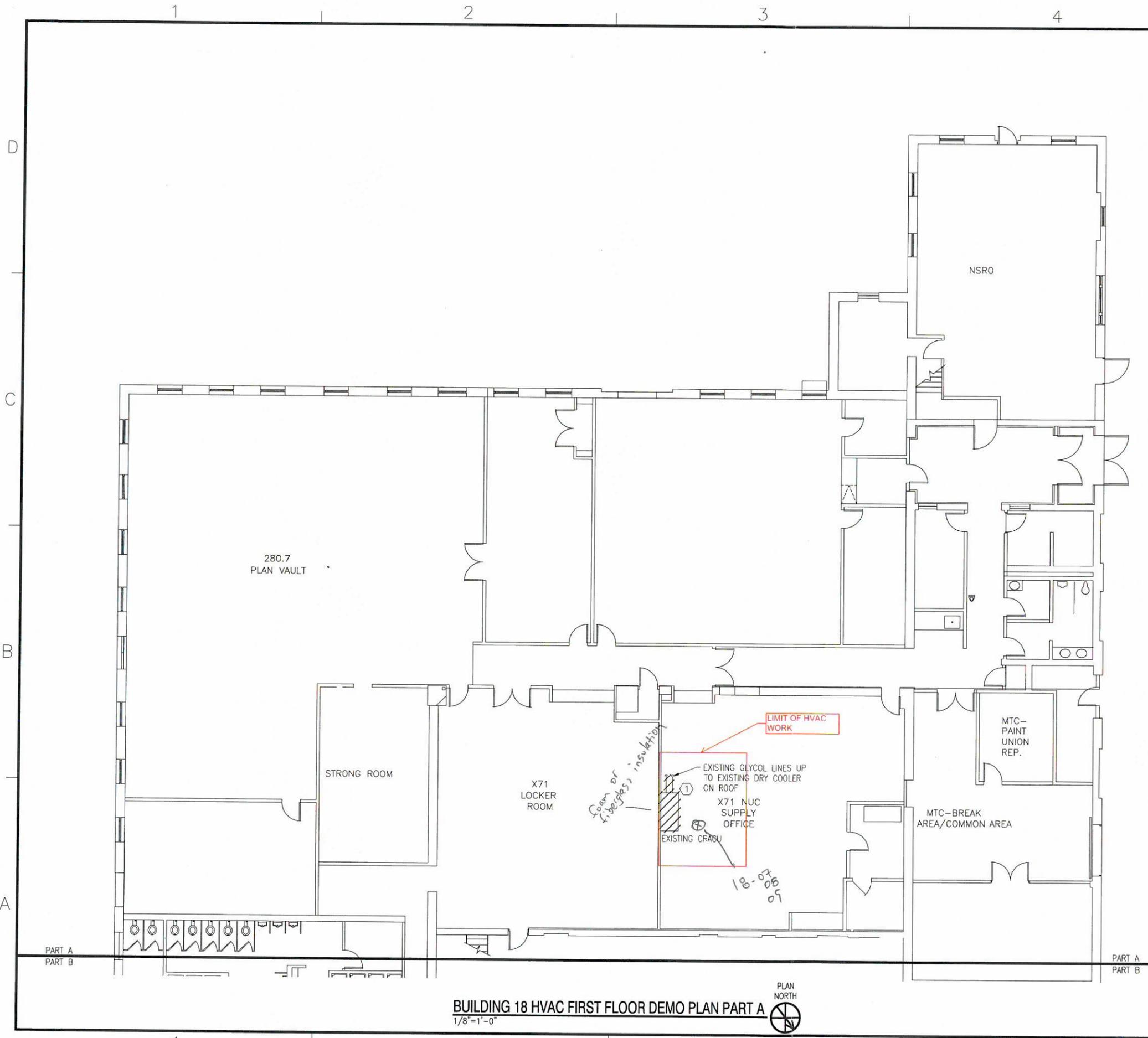
- 1. MECHANICAL CONTRACTOR TO REMOVE AND RE-INSTALL ALL EXISTING AND NEW WORK AS SHOWN ON THIS PLAN.
- 2. MECHANICAL CONTRACTOR TO REMOVE AND RE-INSTALL ALL EXISTING AND NEW WORK AS SHOWN ON THIS PLAN.
- 3. MECHANICAL CONTRACTOR TO REMOVE AND RE-INSTALL ALL EXISTING AND NEW WORK AS SHOWN ON THIS PLAN.

GRAPHIC SCALE



DATE	07/23/2015	DM	
DATE		DM	
SYN	0 35% SUBMISSION	SYN	
DESCRIPTION		DESCRIPTION	
<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH, NAVAL SHIPYARD</p> <p>FY 16 ENERGY PROJECT TASK 1-B-R-22-DDL BUILDING 14 HVAC FIRST FLOOR PLAN</p>			
PROJECT NO.	135091	PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502	CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.		NAVFAC DRAWING NO.	
SHEET ##	14-14-XXX	SHEET ##	14-14-XXX

## **Building 18**



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING CRAC UNIT TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING CRAC UNIT AND ASSOCIATED GLYCOL LINES. EXISTING DUCTWORK, CONTROL WIRING, CONDENSATE LINES, AND WATER LINES TO REMAIN AND BE DISCONNECTED.

SYN	DESCRIPTION	DATE	DM	APPR
0	35% SUBMISSION	02/23/2015		



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DESIGN	JC	DRW	SV	CHK	DM
PM/DW	PETER STOCKLESS				
BRANCH MANAGER	BRUCE LITALIEN				
TEAM/PM/EA	AMIN BAHRLOUR PM&E				

FIRE PROTECTION X

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC  
 NAVAL SHIPYARD - PORTSMOUTH, NH  
 PORTSMOUTH NAVAL SHIPYARD - KITTERY, MAINE  
 FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
 BUILDING 18 HVAC FIRST FLOOR DEMO PLAN PART A

PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.	--
SHEET ##	OF ##
HD2.0	18-14-XXX

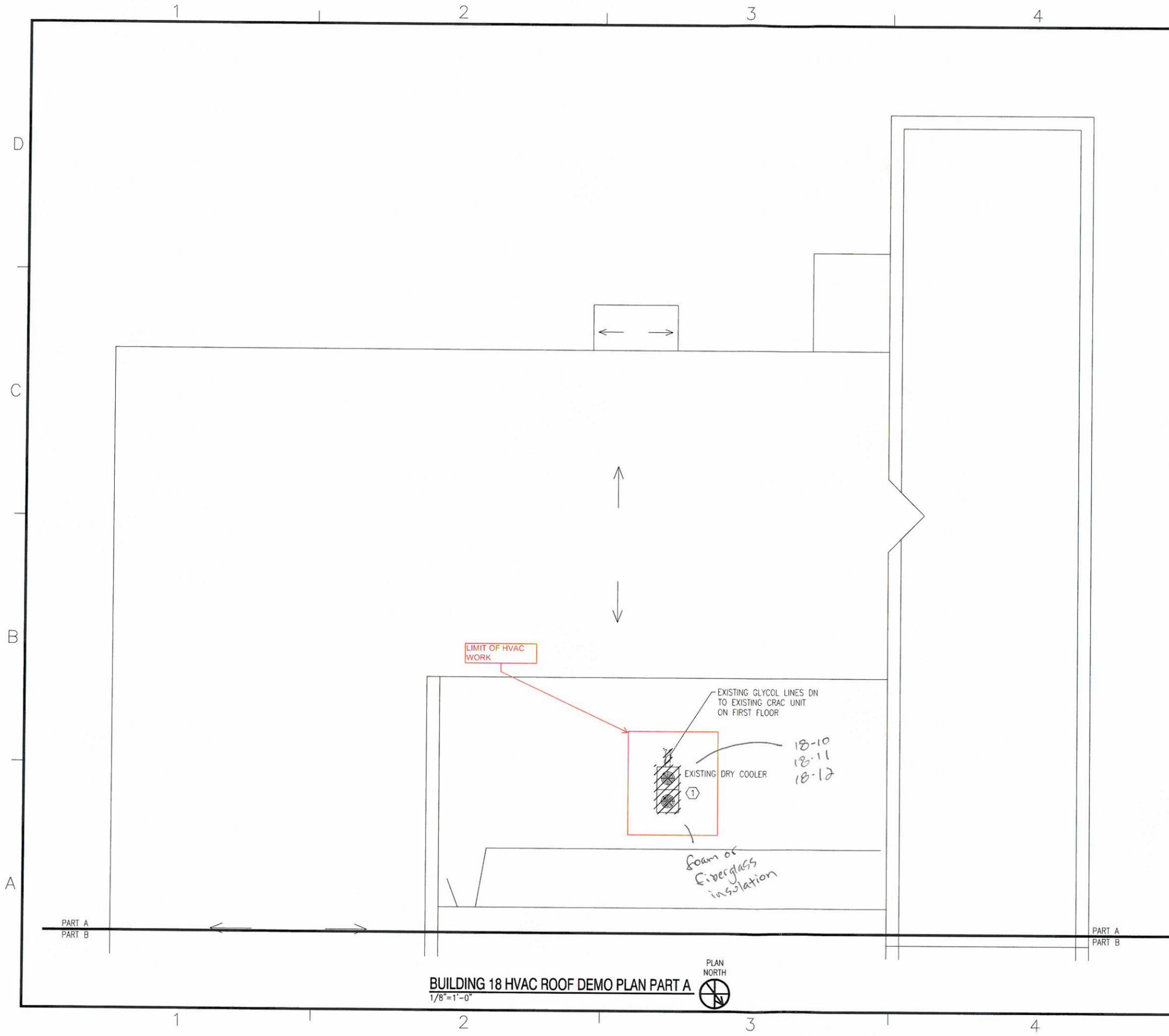
**GRAPHIC SCALE**



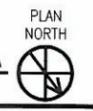
**BUILDING 18 HVAC FIRST FLOOR DEMO PLAN PART A**  
 1/8"=1'-0"







**BUILDING 18 HVAC ROOF DEMO PLAN PART A**  
1/8"=1'-0"



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. CONTRACTOR TO FIELD VERIFY EXISTING ROOF CURB. IF EXISTING ROOF CURB WILL SUPPORT NEW EQUIPMENT, CONTRACTOR CAN EITHER USE EXISTING OR PROVIDE WITH NEW ROOF CURB.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING DRYCOOLER AND ASSOCIATED GLYCOL LINES.

SYN	DESCRIPTION	DATE	DM	APPR
0	35% SUBMISSION	02/23/2015		



DESIGNER	JC	DATE	
DRW	SV	CHK	DM
PM/DM	PETER STOCKLESS		
BRANCH MANAGER	BRUCE LITALIEN		
TEAM/PM&E	AMIN BAHRLOUR PM&E		
FIRE PROTECTION	X		

DEPARTMENT OF THE NAVY  
**NAVAL FACILITIES ENGINEERING COMMAND** ~ MID-ATLANTIC  
 PUBLIC WORKS DEPARTMENT - MAINE  
 PORTSMOUTH NAVAL SHIPYARD  
 KITTERY, MAINE  
 FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
**BUILDING 18 HVAC ROOF DEMO PLAN PART A**

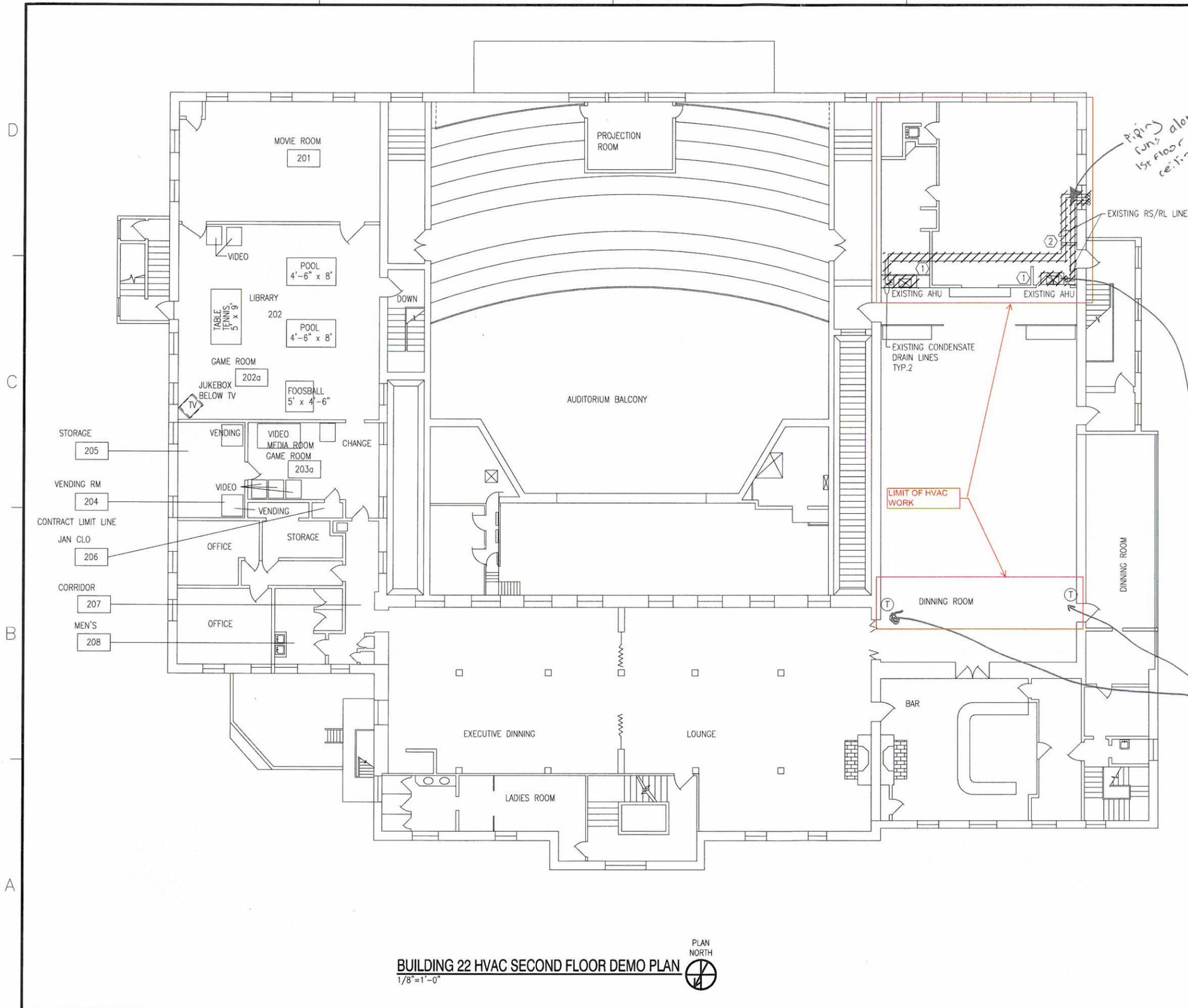
**GRAPHIC SCALE**



PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.	--
SHEET ##	OF ##
<b>HD2.2</b>	<b>18-14-XXX</b>

## **Building 22**



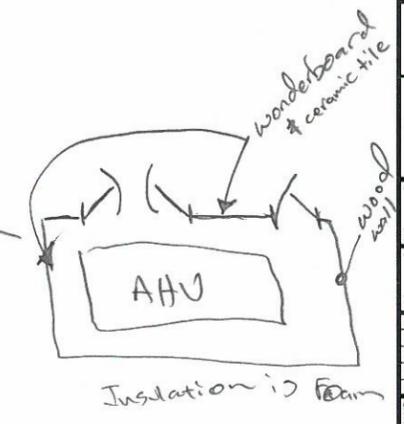


**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AHU UNIT TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING AHU. EXISTING CONDENSATE DRAIN LINES AND DUCTWORK TO REMAIN AND BE DISCONNECTED.
2. EXISTING ACCESSIBLE RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED, AND ABANDONED IN PLACE.



**GRAPHIC SCALE**



**BUILDING 22 HVAC SECOND FLOOR DEMO PLAN**  
1/8"=1'-0"



DATE	02/23/2015	DM	APP
SYN	DESCRIPTION	0	35% SUBMISSION

**PRIMARY CONSTRUCTION**

APPROVED FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES A/E DRW A/E CHK A/E

PIU/DM XXX

BRANCH MANAGER

FEAD/PNAME

FIRE PROTECTION X

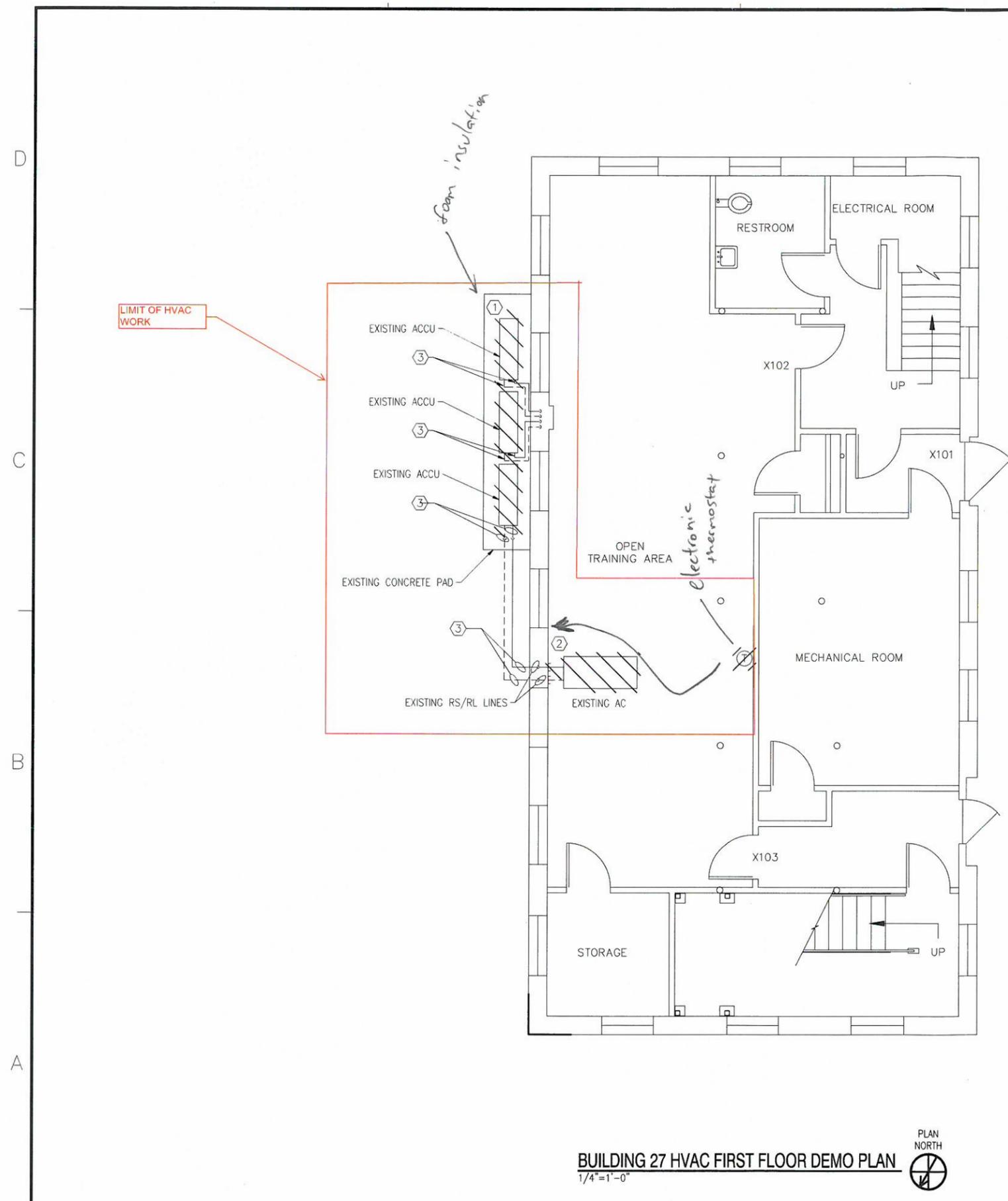
DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
PUBLIC WORKS DEPARTMENT NAME  
PORTSMOUTH NAVAL SHIPYARD - INTERTY, MARINE

FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL

**BUILDING 22 HVAC SECOND FLOOR DEMO PLAN**

PROJECT NO: 135091  
CONSTR. CONTR. NO: N40085-11-D-0502  
NAVFAC DRAWING NO: -  
SHEET ## OF ##  
HD2.1 22-14-XXX

## **Building 27**



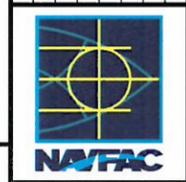
**BUILDING 27 HVAC FIRST FLOOR DEMO PLAN**  
1/4"=1'-0"



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AC UNIT TO BE REMOVED.

DATE	02/23/2015	DM	APPR
DESCRIPTION	0 35% SUBMISSION	SYM	



**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU, RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO REMAIN.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING AC, RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONDENSATE LINES AND DUCTWORK TO REMAIN AND BE DISCONNECTED.
3. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.



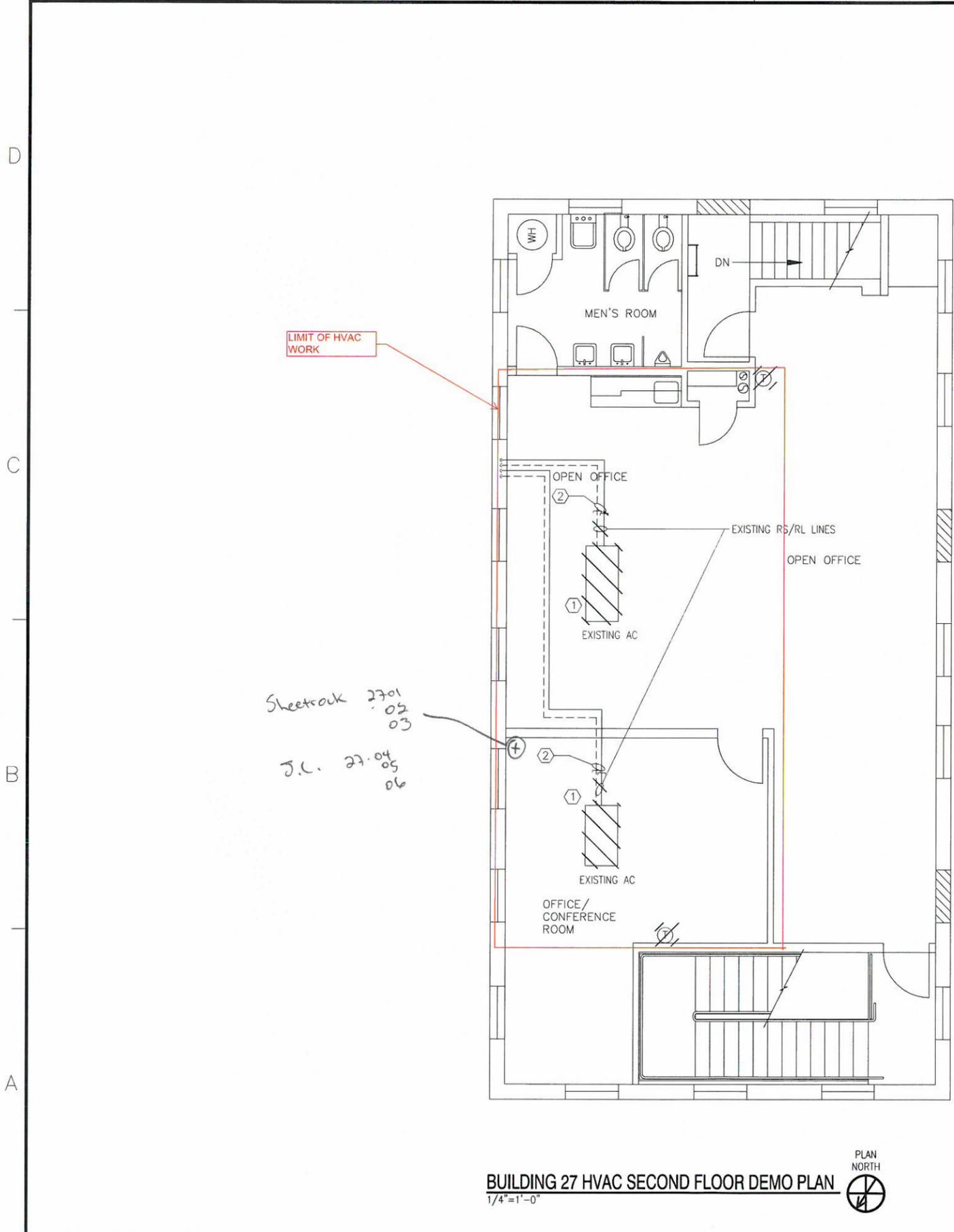
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES A/E	DRW A/E
CHK A/E	XXX
BRANCH MANAGER	
FEED/PM/AC	
FIRE PROTECTION	X

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
PUBLIC WORKS DEPARTMENT - MAINE  
PORTSMOUTH NAVAL SHIPYARD - PORTSMOUTH, MAINE  
RITERTY, MAINE  
FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL  
BUILDING 27 HVAC FIRST FLOOR DEMO PLAN

**GRAPHIC SCALE**



PROJECT NO.:	135091
CONSTR. CONTR. NO.:	N40085-11-0-0502
NAVFAC DRAWING NO.:	--
SHEET ##	of ##
HD2.0	27-14-XXX



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AC UNIT TO BE REMOVED.

REV	DESCRIPTION	DATE	DM	APPR
0	35% SUBMISSION	02/23/2015		



**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING AC, RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONDENSATE LINES AND DUCTWORK TO REMAIN AND BE DISCONNECTED.
2. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.



APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES A/E	CHK A/E
FW/DM	XXX
BRANCH MANAGER	
FEND/PM/ME	
FIRE PROTECTION	X

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
 PUBLIC WORKS DEPARTMENT - MAINE  
 PORTSMOUTH NAVAL SHIPYARD  
 RUTHERFORD, MAINE

FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
 BUILDING 27 HVAC SECOND FLOOR DEMO PLAN

**GRAPHIC SCALE**



PROJECT NO.:	135091
CONSTR. CONTR. NO.:	N40085-11-D-0502
NAVFAC DRAWING NO.:	--
SHEET ##	OF ##
HD2.1	27-14-XXX

## **Building 29**

**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AHU AND CRAC UNIT TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR SHALL REMOVE EXISTING CHILLER AND IT'S ASSOCIATED PIPING TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO BE REMOVED.
2. MECHANICAL CONTRACTOR SHALL REMOVE EXISTING AIR COOLED CONDENSING UNIT. EXISTING CONCRETE PAD TO REMAIN.
3. MECHANICAL CONTRACTOR TO REMOVE EXISTING CRAC UNIT. EXISTING DUCTWORK, CONDENSATE, AND WATER LINES TO REMAIN AND BE DISCONNECTED.
4. MECHANICAL CONTRACTOR TO REMOVE EXISTING AHU. EXISTING DUCTWORK AND CONDENSATE LINES TO REMAIN AND BE DISCONNECTED.

NO.	DATE	APP.
0	07/23/2015	DM
0		35% SUBMISSION
0		DESCRIPTION

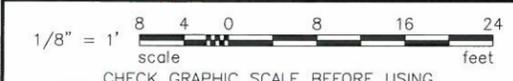


DESIGNED BY	DATE	
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES A/E	DRW A/E	CHK A/E
PA/DM	XXX	
BRANCH MANAGER		
FEED/PM/ME		
FIRE PROTECTION	X	

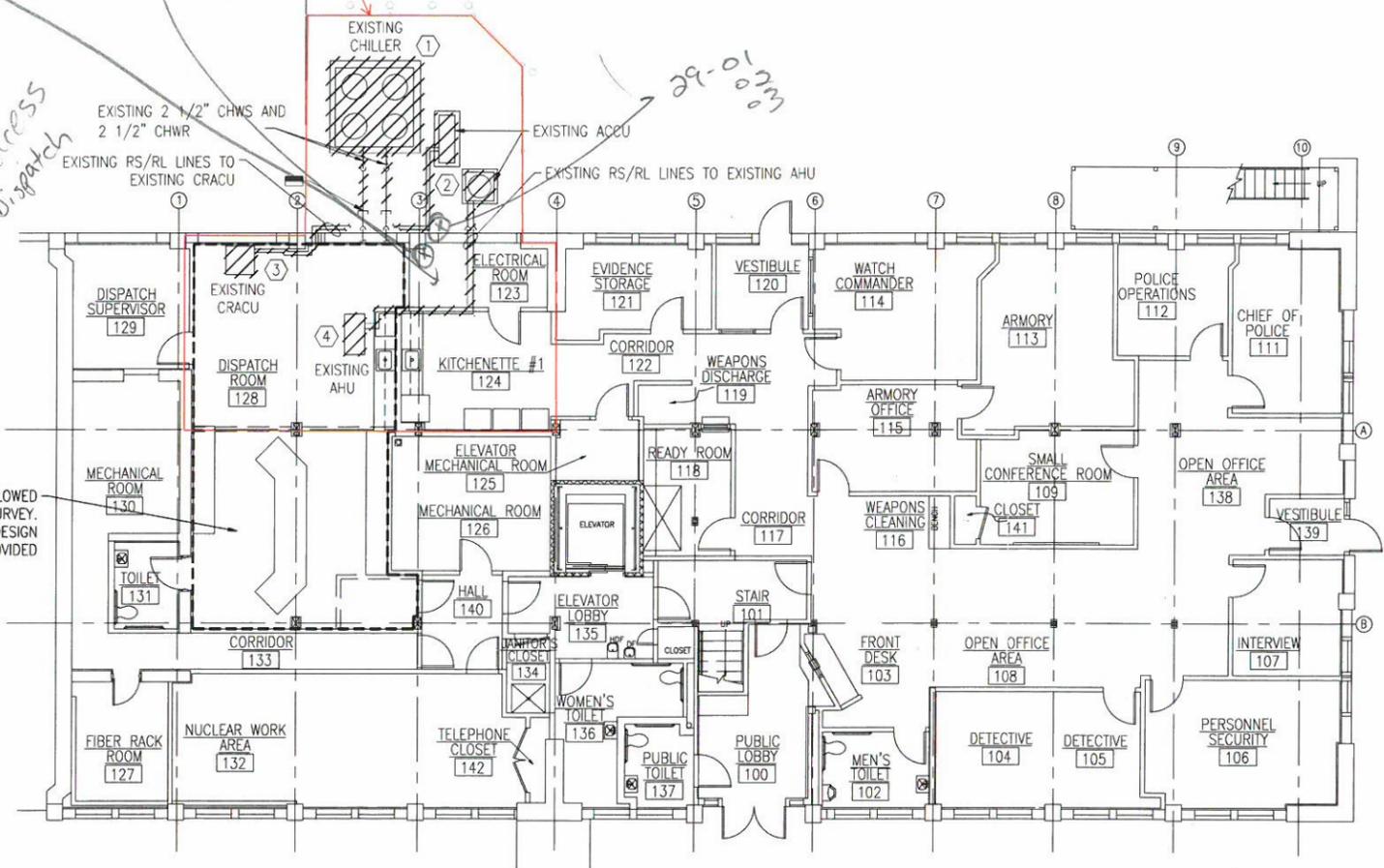
DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
 PUBLIC WORKS DEPARTMENT - NAVAL SHIPYARD - PORTSMOUTH, NH  
 PORTSMOUTH NAVAL SHIPYARD  
 BATTERY, BARRACKS  
 FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
 BUILDING 29 HVAC FIRST FLOOR DEMO PLAN

EPROJECT NO.:	135091
CONSTR. CONTR. NO.:	N40085-11-D-0502
NAVFAC DRAWING NO.:	--
SHEET ## OF ##	HD2.0 29-14-XXX

**GRAPHIC SCALE**



*samples 29-04 through 29-23 from electrical room (kitchenette had similar materials)*  
*New chiller already installed*  
*No piping (new being installed)*  
 LBP-29-01  
 LIMIT OF HVAC WORK  
 No access to Dispatch



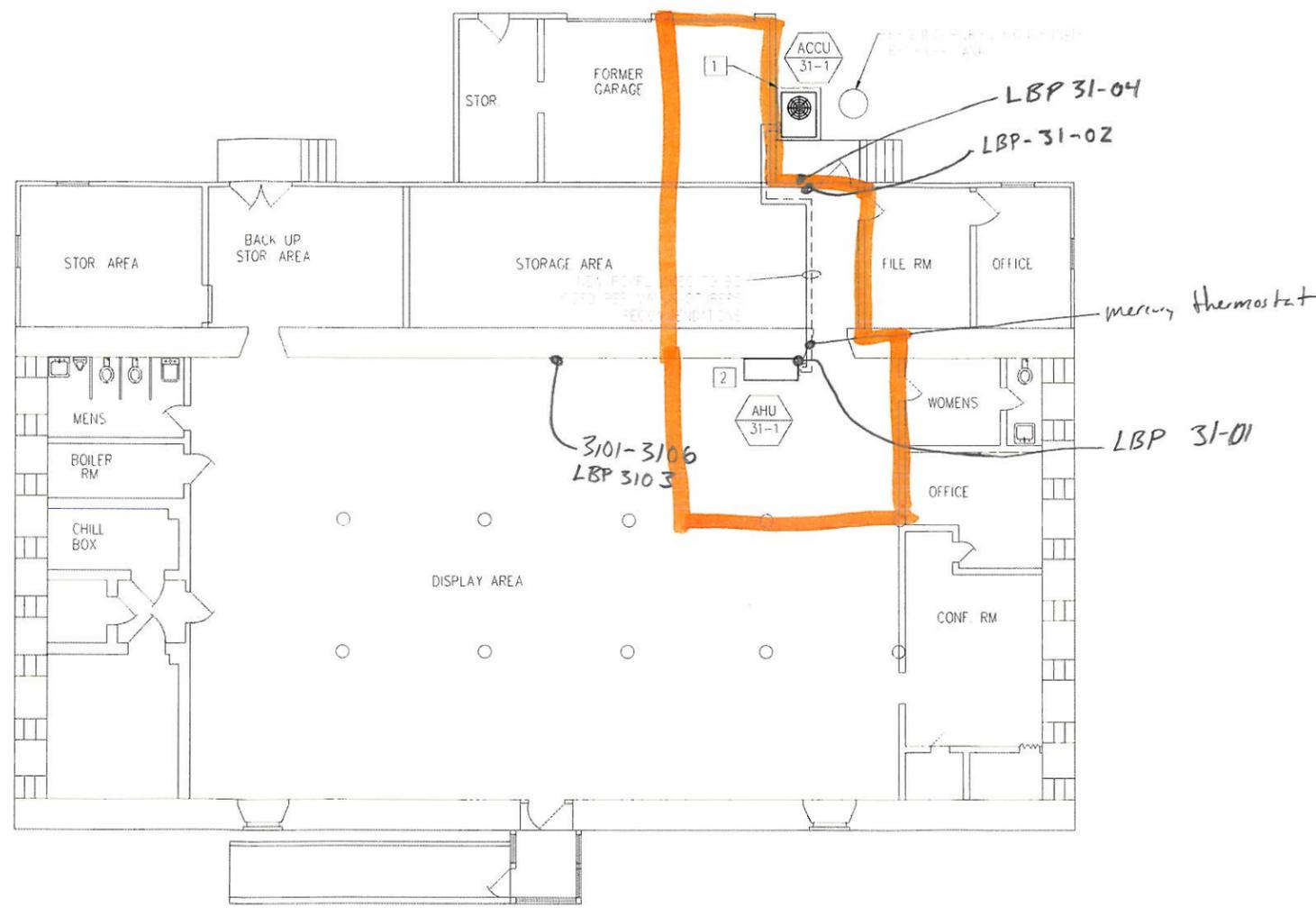
NOTE THAT ACCESS WAS NOT ALLOWED. THERE MAY BE OTHER AREAS THAT WORK WILL OCCUR.

CSI ENGINEERING NOT ALLOWED ACCESS DURING SURVEY. ASSUMPTIONS BASED ON DESIGN DOCUMENTS PROVIDED

**BUILDING 29 HVAC FIRST FLOOR DEMO PLAN**  
 1/8"=1'-0"



## **Building 31**



**BUILDING 31 HVAC FIRST FLOOR PLAN**  
1/8"=1'-0"



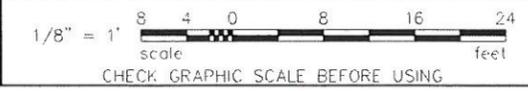
**GENERAL SHEET NOTES**

1. ALL WALL, CEILING AND FLOOR SHALL BE REMOVED TO BE REPEATED DURING THE DEMOLITION OF NORTH ATLAS FACILITY, AS INDICATED BY THE DRAWING. ALL SURFACES SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS TO DEMOLISH THE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS TO DEMOLISH THE FACILITY.
2. MECHANICAL CONTRACTOR TO REMOVE ALL EXISTING EQUIPMENT AND ASSOCIATED AIR TERMINALS AND REPLACE WITH NEW EQUIPMENT AND ASSOCIATED AIR TERMINALS.
3. EXISTING EQUIPMENT ASSOCIATED WITH EXISTING SYSTEMS TO BE REMOVED.
4. REPAIR DEFICIENCIES TO MATCH EXISTING CONDITIONS.

**NEW WORK KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE ALL EXISTING EQUIPMENT AND ASSOCIATED AIR TERMINALS AND REPLACE WITH NEW EQUIPMENT AND ASSOCIATED AIR TERMINALS.
2. MECHANICAL CONTRACTOR TO REMOVE ALL EXISTING EQUIPMENT AND ASSOCIATED AIR TERMINALS AND REPLACE WITH NEW EQUIPMENT AND ASSOCIATED AIR TERMINALS.

**GRAPHIC SCALE**



DATE	02/23/2015	DM	
DESCRIPTION	0 35% SUBMISSION	APPR	
APPROVED			
FOR COMMANDER NAVFAC			
ALTY			
SATISFACTORY TO	DATE		
DES A/E	DRW A/E	CHK A/E	
PM/CM	XXX		
BRANCH MANAGER			
LEAD/PM/SE			
FIRE PROTECTION	X		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC WORKS DEPARTMENT - MARINE PORTSMOUTH, NAVAL SHIPYARD KITTERY, MAINE FY 16 ENERGY PROJECT TASK 1-B-R-22-DDL BUILDING 31 HVAC FIRST FLOOR PLAN			
PROJECT NO	135091		
CONSTR CONTR NO	N40085-11-D-0502		
NAVFAC DRAWING NO			
SHEET ##	11	OF ##	11
<b>H2.0</b>   <b>31-14-XXX</b>			

## **Building 44**

GENERAL SHEET NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE BUILDING CODES AND STANDARDS, AND THE SPECIFICATIONS AND CONTRACT DOCUMENTS FOR THE PROJECT.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES.

3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT AREAS AND UTILITIES AT ALL TIMES.

4. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES NOT TO BE REMOVED OR ALTERED.

5. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SAFETY AND SECURITY MEASURES THROUGHOUT THE PROJECT.

6. THE CONTRACTOR SHALL SUBMIT ALL MATERIALS AND WORKMANSHIP FOR INSPECTION AND APPROVAL BY THE ARCHITECT AND THE LOCAL AUTHORITY.

7. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS UP TO DATE THROUGHOUT THE PROJECT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES.

9. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT AREAS AND UTILITIES AT ALL TIMES.

10. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES NOT TO BE REMOVED OR ALTERED.

NEW WORK KEYNOTES

1. NEW WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE BUILDING CODES AND STANDARDS, AND THE SPECIFICATIONS AND CONTRACT DOCUMENTS FOR THE PROJECT.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES.

3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT AREAS AND UTILITIES AT ALL TIMES.

4. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES NOT TO BE REMOVED OR ALTERED.

5. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SAFETY AND SECURITY MEASURES THROUGHOUT THE PROJECT.

6. THE CONTRACTOR SHALL SUBMIT ALL MATERIALS AND WORKMANSHIP FOR INSPECTION AND APPROVAL BY THE ARCHITECT AND THE LOCAL AUTHORITY.

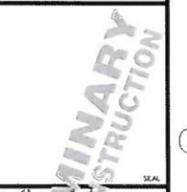
7. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS UP TO DATE THROUGHOUT THE PROJECT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES.

9. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT AREAS AND UTILITIES AT ALL TIMES.

10. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES NOT TO BE REMOVED OR ALTERED.

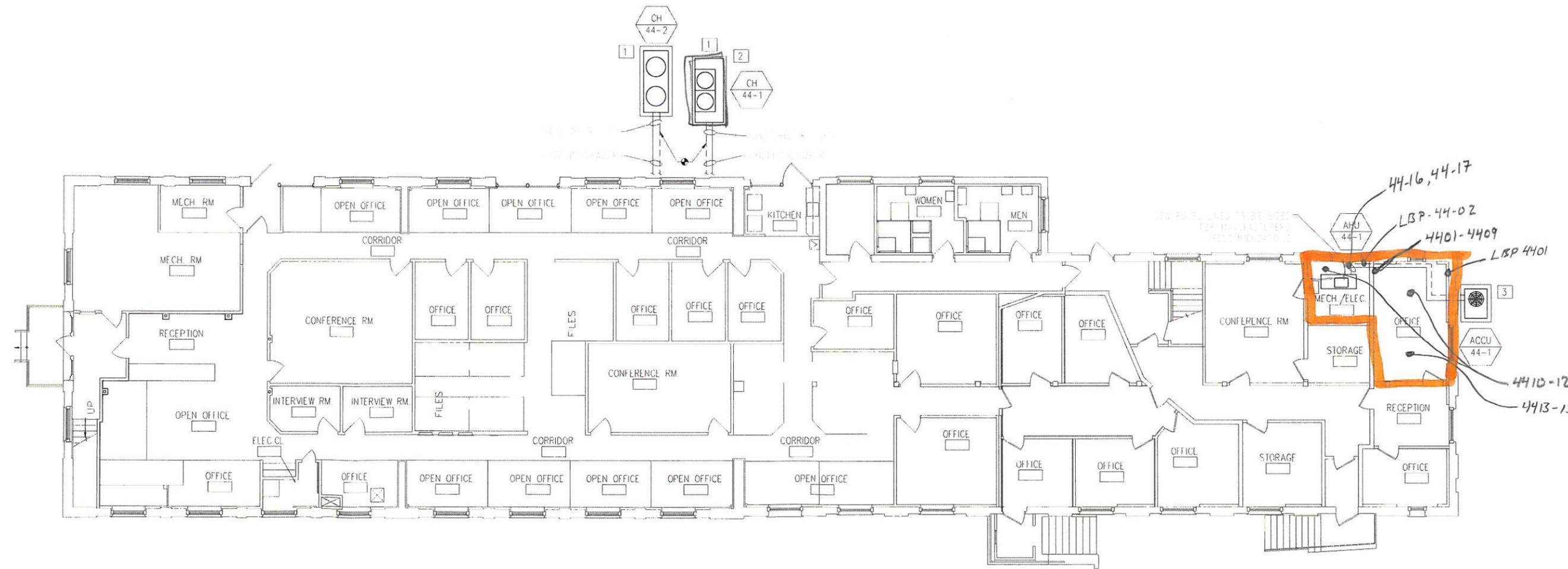
DATE	07/23/2015	DM	
DESCRIPTION	35% SUBMISSION	APP	
BY			
CHECKED BY			
APPROVED BY			



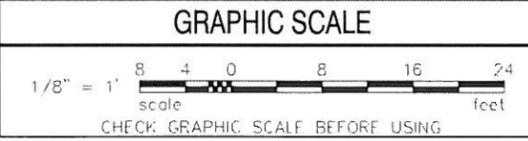
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES A/E	DRW A/E
PM/SM	XXX
BRANCH MANAGER	
LEAD/PM/EA	
FIRE PROTECTION	X

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 PUBLIC WORKS DEPARTMENT - WARE  
 PORTSMOUTH NAVAL SHIPYARD  
 KITTERY, MAINE  
 FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
 BUILDING 44 HVAC FIRST FLOOR PLAN

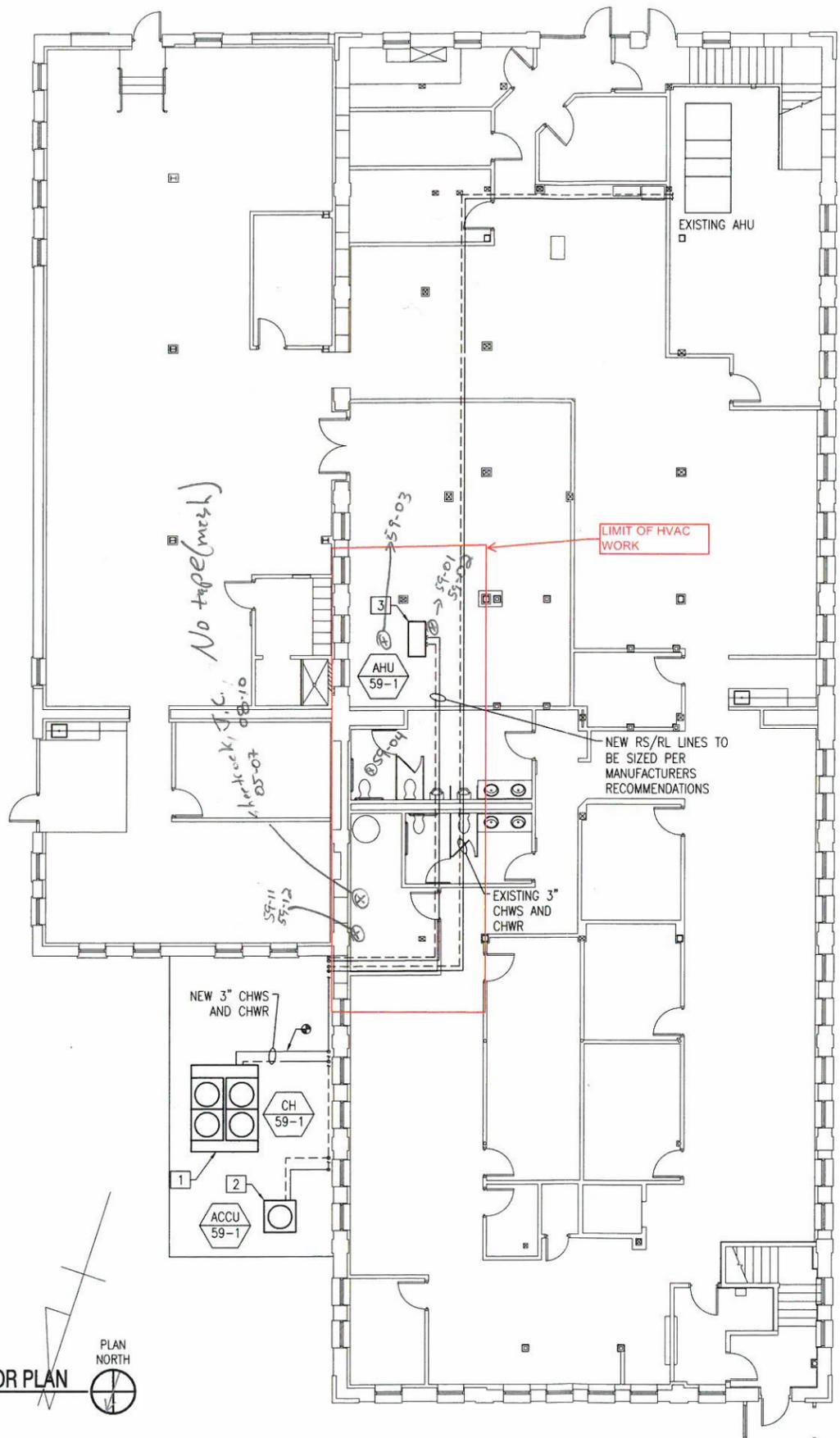
PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.	
SHEET ##	OF ##
H2.0	44-14-XXX



BUILDING 44 HVAC FIRST FLOOR PLAN  
 1/8" = 1'-0"



## **Building 59**



**BUILDING 59 HVAC FIRST FLOOR PLAN**  
1/8"=1'-0"



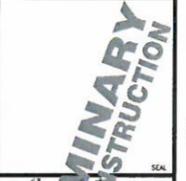
**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. REPLACE EXISTING THERMOSTATS ASSOCIATED W/ EXISTING AC UNIT W/ BACNET COMPATIBLE THERMOSTATS.
4. REPAIR PENETRATIONS TO MATCH EXISTING CONDITIONS.

**NEW WORK KEYNOTES**

1. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL A NEW CHILLER IT'S ASSOCIATED CHWS/R PIPING AND CONNECT THE NEW CHWS/R INTO THE EXISTING CHILLED SYSTEM.
2. MECHANICAL CONTRACTOR TO FURNISH AND INSTALL NEW ACCU AND IT'S ASSOCIATED RS/RL LINES. NEW ACCU TO BE PLACED ON EXISTING CONCRETE PAD.
3. MECHANICAL CONTRACTOR TO FURNISH AND INSTALL NEW AHU AND CONNECT TO ASSOCIATED RS/RL LINES AND EXISTING DUCTWORK. EXISTING CONDENSATE LINES TO BE RECONNECTED.

REV	DATE	DESCRIPTION
0	02/23/2015	35% SUBMISSION



APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SUBJECT TO DATE	
DES A/E	DRW A/E
CHK A/E	
PIA/DM	XXX
BRANCH MANAGER	
FIRE PROTECTION	X
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC	
NAVAL SHIPYARD - PORTSMOUTH, MAINE	
NAVAL SHIPYARD - KITTERY, MAINE	
FY 16 ENERGY PROJECT	
TASK 1-B-R-22-DDL	
BUILDING 59 HVAC FIRST FLOOR PLAN	

**GRAPHIC SCALE**



PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.	
SHEET	## OF ##
<b>H2.0</b>	<b>59-14-XXX</b>

DRAWING REVISION: 10 OCTOBER 2014

## **Building 79**

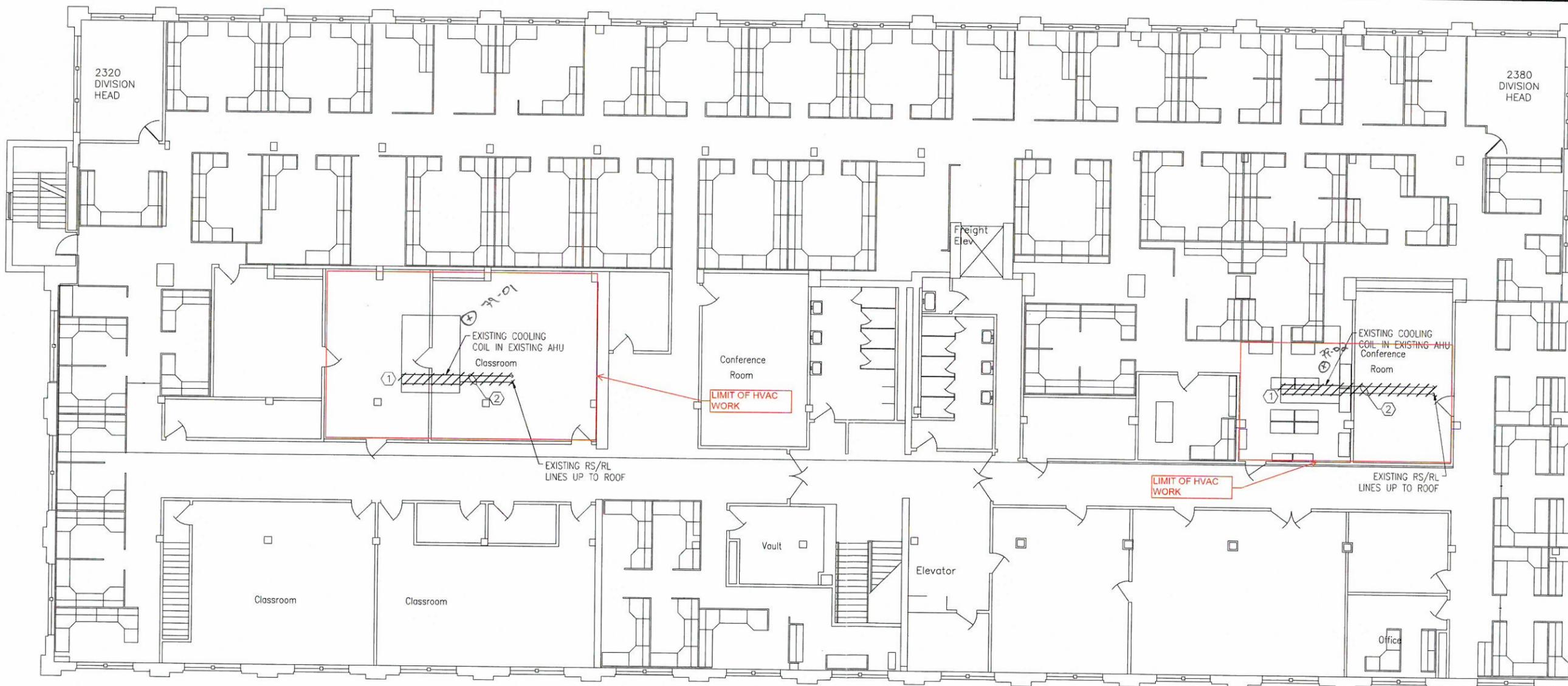
**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AHU TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. CONTRACTOR TO REMOVE EXISTING COOLING COIL. EXISTING CONDENSATE LINES TO REMAIN AND BE DISCONNECTED. EXISTING AHU TO REMAIN AND BE REFURBISHED TO LIKE NEW CONDITION. ALL WEARABLE PARTS, BEARINGS, DAMPERS, MOTORS, SENSORS, ETC. TO BE REPLACED.
2. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.

D  
C  
B  
A



**BUILDING 79 HVAC SECOND FLOOR DEMO PLAN PART A**  
1/8"=1'-0"



**GRAPHIC SCALE**

1/8" = 1' scale

0 4 8 16 24 feet

CHECK GRAPHIC SCALE BEFORE USING

DATE	02/23/2015	DM	APPR
SYN	0	35% SUBMISSION	DESCRIPTION
<p>FOR COMMANDER NAVFAC</p> <p>ACTIVITY</p> <p>SUBFACTORY TO DATE</p> <p>DES A/E DRN A/E CHK A/E</p> <p>FW/IN XXX</p> <p>BRANCH MANAGER</p> <p>TRD/PMAC</p> <p>FIRE PROTECTION X</p> <p>NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC</p> <p>NAVAL SHIPYARD - PORTSMOUTH, NH</p> <p>PORTSMOUTH NAVAL SHIPYARD - KITTERY, MAINE</p> <p>DEPARTMENT OF THE NAVY</p> <p>NAVAL FACILITIES ENGINEERING COMMAND</p> <p>PUBLIC WORKS DEPARTMENT - WME</p> <p>FY 16 ENERGY PROJECT</p> <p>TASK 1-B-R-22-DDL</p> <p>BUILDING 79 HVAC SECOND FLOOR DEMO PLAN A</p>			
PROJECT NO.	135091		
CONSTR. CONTR. NO.	N40085-11-D-0502		
NAVFAC DRAWING NO.	--		
SHEET	##	OF	##
HD2.0	79-14-XXX		

Samples collected near rooftop ACCU's

79-04  
05  
06 > Roofing cement (greenish)

79-07  
08  
09 > Roofing cement (black)

79-10  
11  
12 > Shingling

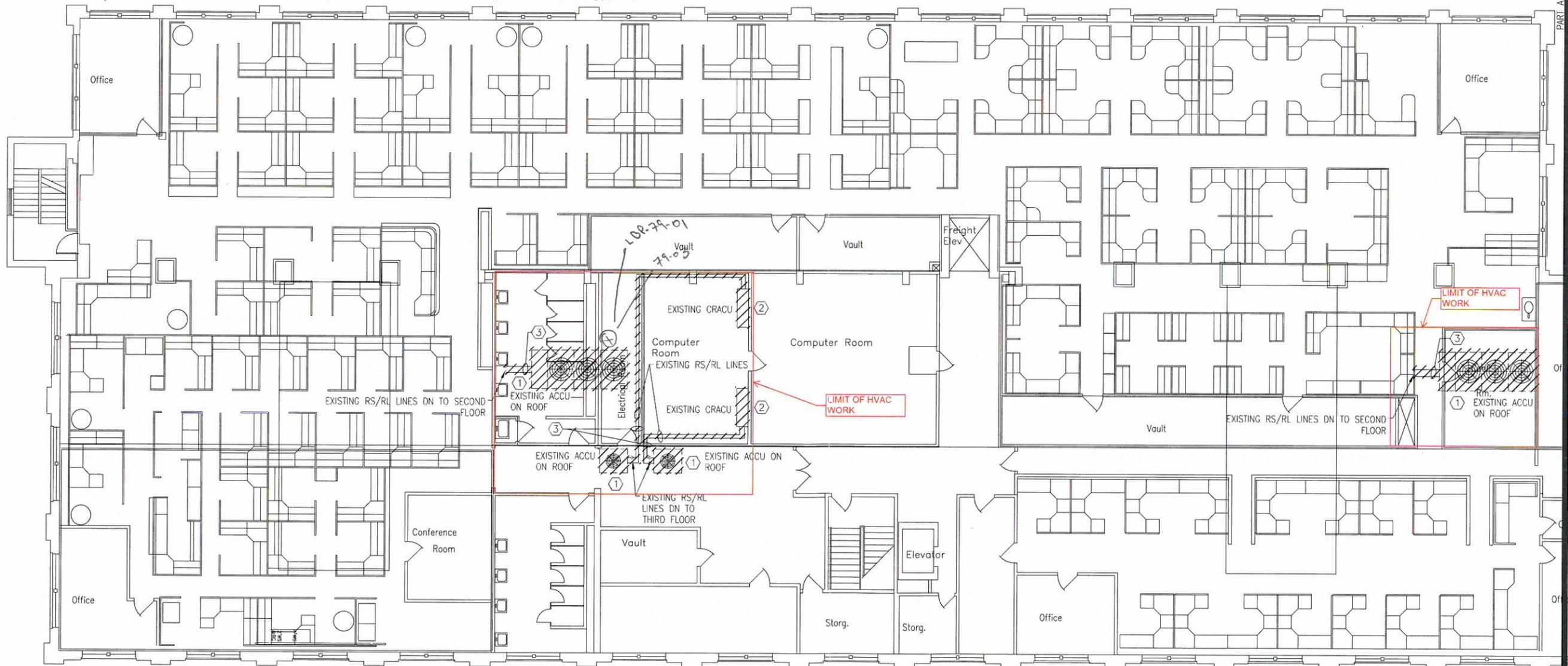
Note: Asbestos piping was observed in the space between the third floor & roof. The piping isn't associated with this project, but workers in the area should be notified of the material.

GENERAL SHEET NOTES

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING CRAC UNIT TO BE REMOVED.

DEMOLITION KEYNOTES

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU AND ROOF SUPPORTS.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING CRAC UNIT. EXISTING CONDENSATE AND WATER LINES TO REMAIN AND BE DISCONNECTED.
3. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.



BUILDING 79 HVAC THIRD FLOOR DEMO PLAN PART A  
1/8"=1'-0"



**GRAPHIC SCALE**

1/8" = 1' scale

0 4 8 16 24 feet

CHECK GRAPHIC SCALE BEFORE USING

DATE	02/23/2015	DM	APP
SYMBOL	0	35% SUBMISSION	DESCRIPTION
APPROVED			
FOR COMMANDER NAVFAC			
ACTIVITY			
SATISFACTORY TO DATE			
DES A/E	DRW A/E	CHK A/E	
PN/CM	XXX		
BRANCH MANAGER			
FEED/PHASE			
FIRE PROTECTION	X		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND		
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC	NAVAL SHIPYARD - PORTSMOUTH, NH		
PUBLIC WORKS DEPARTMENT - MAINE	PORTSMOUTH NAVAL SHIPYARD		
<b>FY 16 ENERGY PROJECT</b> <b>TASK 1-B-R-22-DDL</b>			
<b>BUILDING 79 HVAC THIRD FLOOR DEMOLITION PLAN PART A</b>			
PROJECT NO.	135091		
CONSTR. CONTR. NO.	N40085-11-D-0502		
NAVFAC DRAWING NO.			
SHEET ##	OF ##		
HD2.1	79-14-XXX		

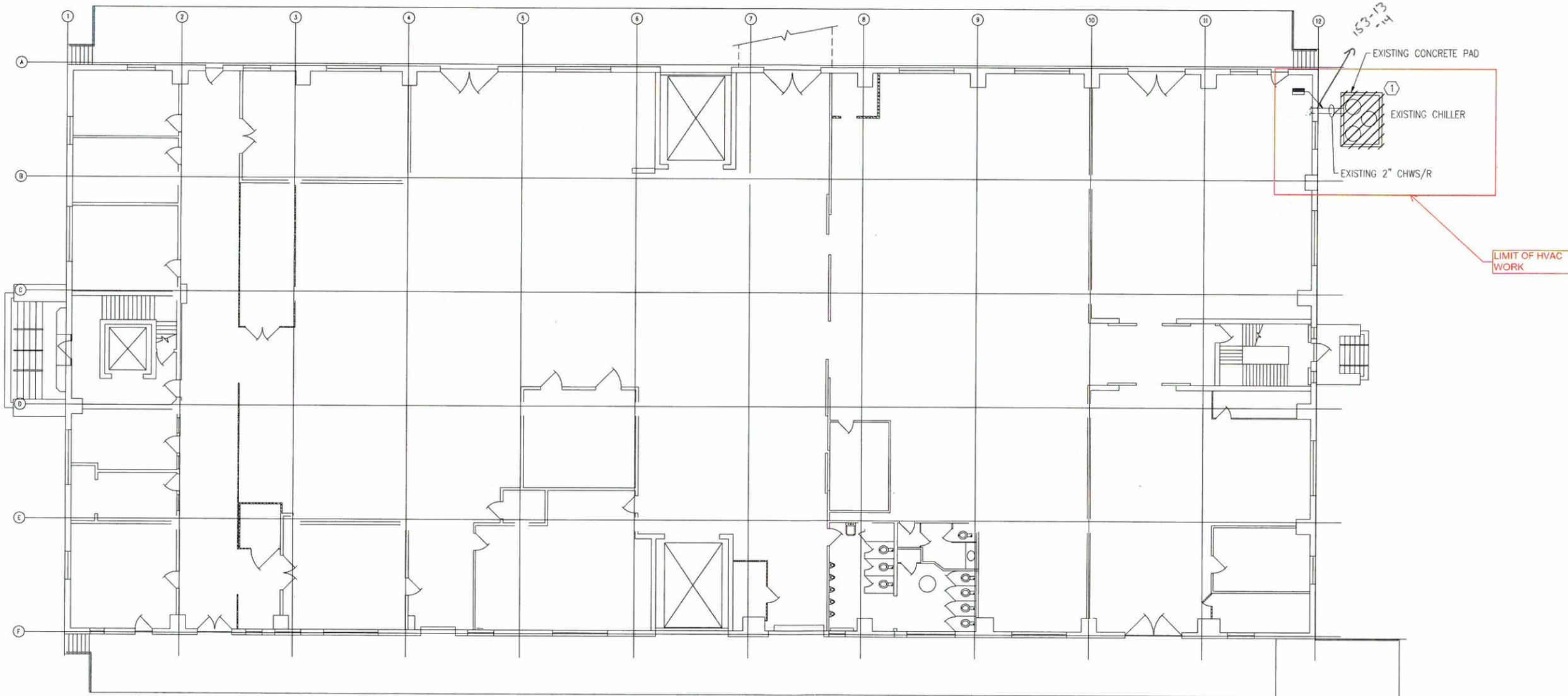
## **Building 153**

**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AHU UNIT TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING CHILLER AND ASSOCIATED CHWS/R LINES UP TO POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO BE REMOVED.



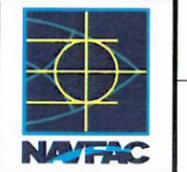
**BUILDING 153 HVAC FIRST FLOOR DEMO PLAN**  
1/8" = 1'-0"



**GRAPHIC SCALE**



SYMBOL	DESCRIPTION	DATE	APPR.
0	35% SUBMISSION	02/23/2015	DM



**PRIMARY CONSTRUCTION**

**CSJ**  
CONSTRUCTION SERVICES, INC.  
1000 W. BROADWAY, SUITE 200  
PORTSMOUTH, VA 23704  
TEL: 757.233.8800  
WWW.CSJCONSTRUCTION.COM

APPROVED  
FOR COMMANDER NAVFAC  
ACTIVITY  
SATISFACTORY TO DATE  
DES A/E DRW A/E CHK A/E  
PW/DM XXX  
BRANCH MANAGER  
FED/PMAC  
FIRE PROTECTION X

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
PUBLIC WORKS DEPARTMENT - WARE  
PORTSMOUTH NAVAL SHIPYARD  
RYTERRY, MANTLE  
FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL  
BUILDING 153 HVAC FIRST FLOOR DEMO PLAN

PROJECT NO.: 135091  
CONSTR. CONTR. NO.: N40085-11-D-0502  
NAVFAC DRAWING NO.:  
SHEET ## OF ##  
HD2.0 153-14-XXX

**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AC UNIT TO BE REMOVED.

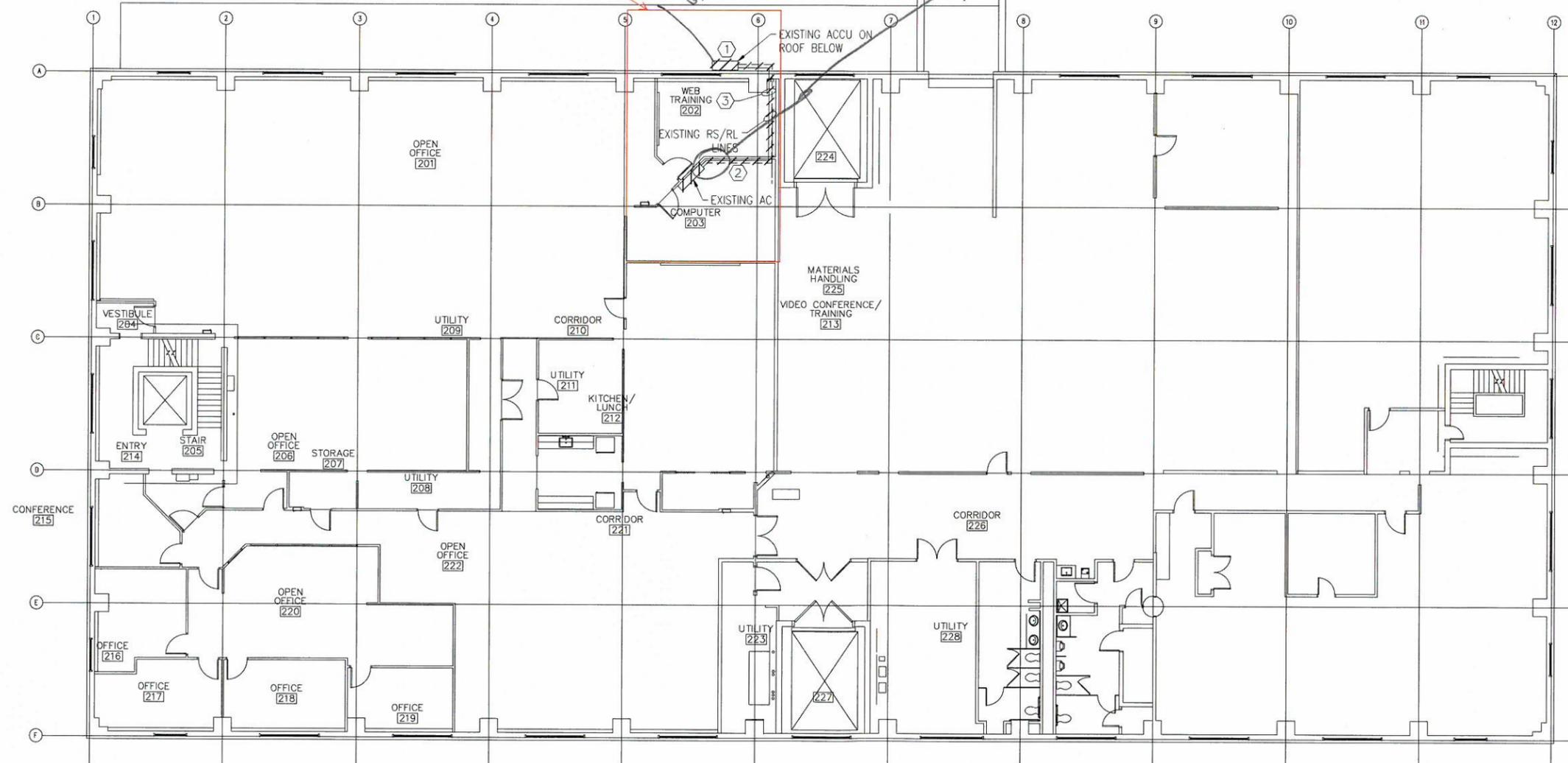
**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU, RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING AC, RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONDENSATE LINES TO REMAIN AND BE DISCONNECTED.
3. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING CHWS/R CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.

LIMIT OF HVAC WORK

unit mounted on brackets attached to the wall unit not sitting on roof  
No Access to roof

Samples 1-12  
# LBP sample



**BUILDING 153 HVAC SECOND FLOOR DEMO PLAN**  
1/8"=1'-0"

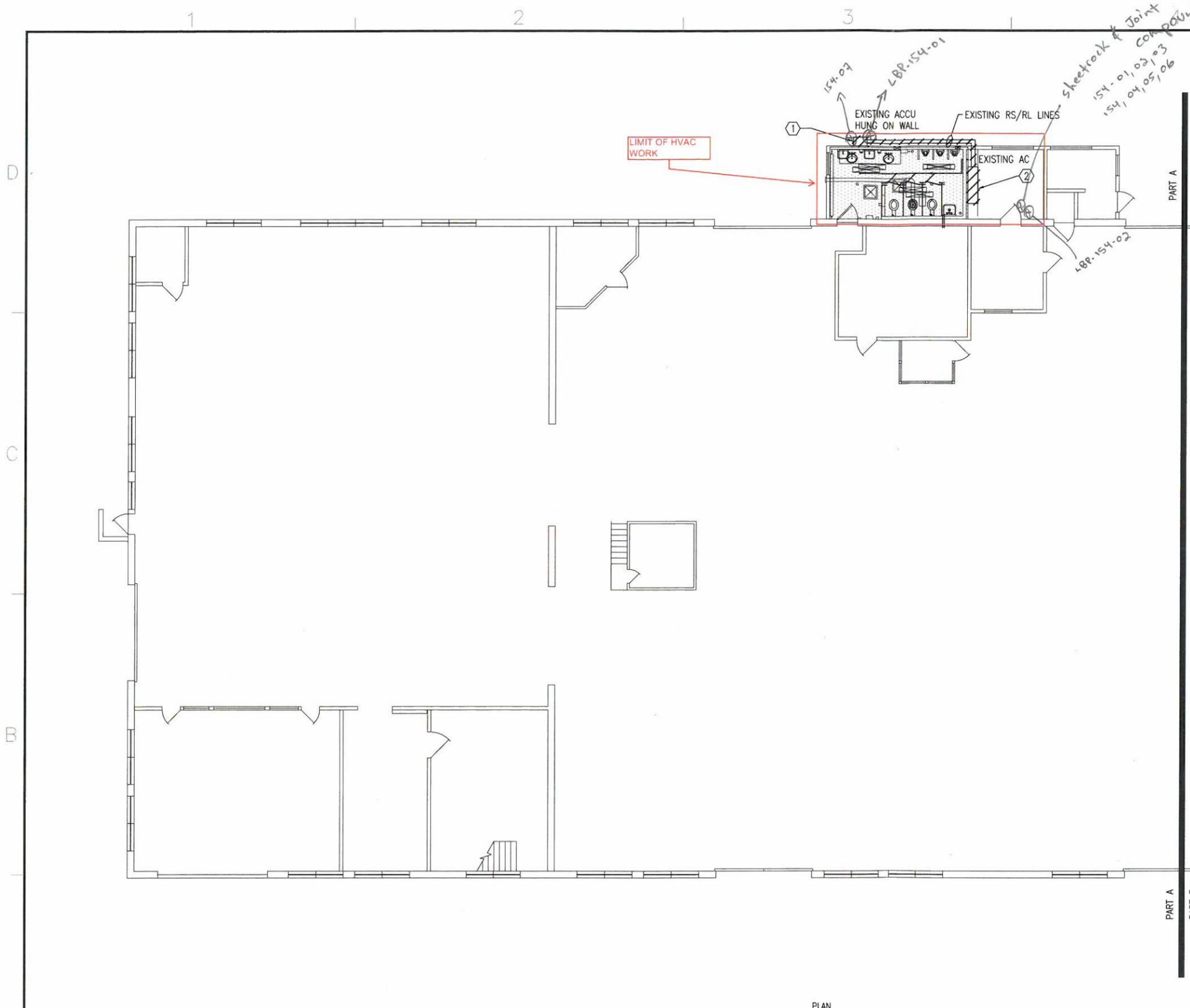


**GRAPHIC SCALE**



DATE	02/23/2015	DM	APPR
DESCRIPTION	35% SUBMISSION	SYM	0
<p>APPROVED FOR COMMANDER WAFAC</p> <p>ACTIVITY</p> <p>SUBSIDIARY TO DATE</p> <p>DES A/E DRW A/E CHK A/E</p> <p>PI/DM XXX</p> <p>BRANCH MANAGER</p> <p>LEAD/PM/ME</p> <p>FIRE PROTECTION X</p>			
<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD - KITTERY, MAINE</p> <p>FY 16 ENERGY PROJECT TASK 1-B-R-22-DDL</p> <p>BUILDING 153 HVAC SECOND FLOOR DEMO PLAN</p>			
PROJECT NO.:	135091		
CONSTR. CONTR. NO.:	N40085-11-D-0502		
NAFAC DRAWING NO.:			
SHEET #	1	OF	1
<p>HD2.1 153-14-XXX</p>			

## **Building 154**



**BUILDING 154 HVAC FIRST FLOOR DEMO PLAN PART A**  
 1/8"=1'-0"

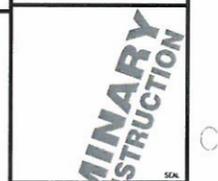
**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. ALL EXISTING THERMOSTATS ASSOCIATED WITH EQUIPMENT TO BE REMOVED ARE TO BE REPLACED WITH NEW BACNET CAPABLE THERMOSTATS AND TIED INTO THE NEW SYSTEM.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU, RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING AC, RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING.

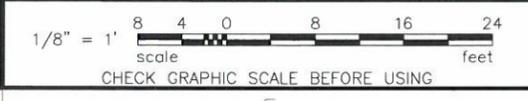
SYN	DESCRIPTION	DATE	DM	APPR
0	35% SUBMISSION	02/23/2015		



DESIGNED BY	CHK	A/E
DRAWN BY	CHK	A/E
PROJECT NO.	XXX	
BRANCH MANAGER		
DATE		

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
 PUBLIC WORKS DEPARTMENT - WARE  
 PORTSMOUTH NAVAL SHIPYARD  
 PORTSMOUTH NAVAL SHIPYARD - ARTISTRY, MAINE  
 FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
 BUILDING 154 HVAC FIRST FLOOR DEMO PLAN PART A

**GRAPHIC SCALE**



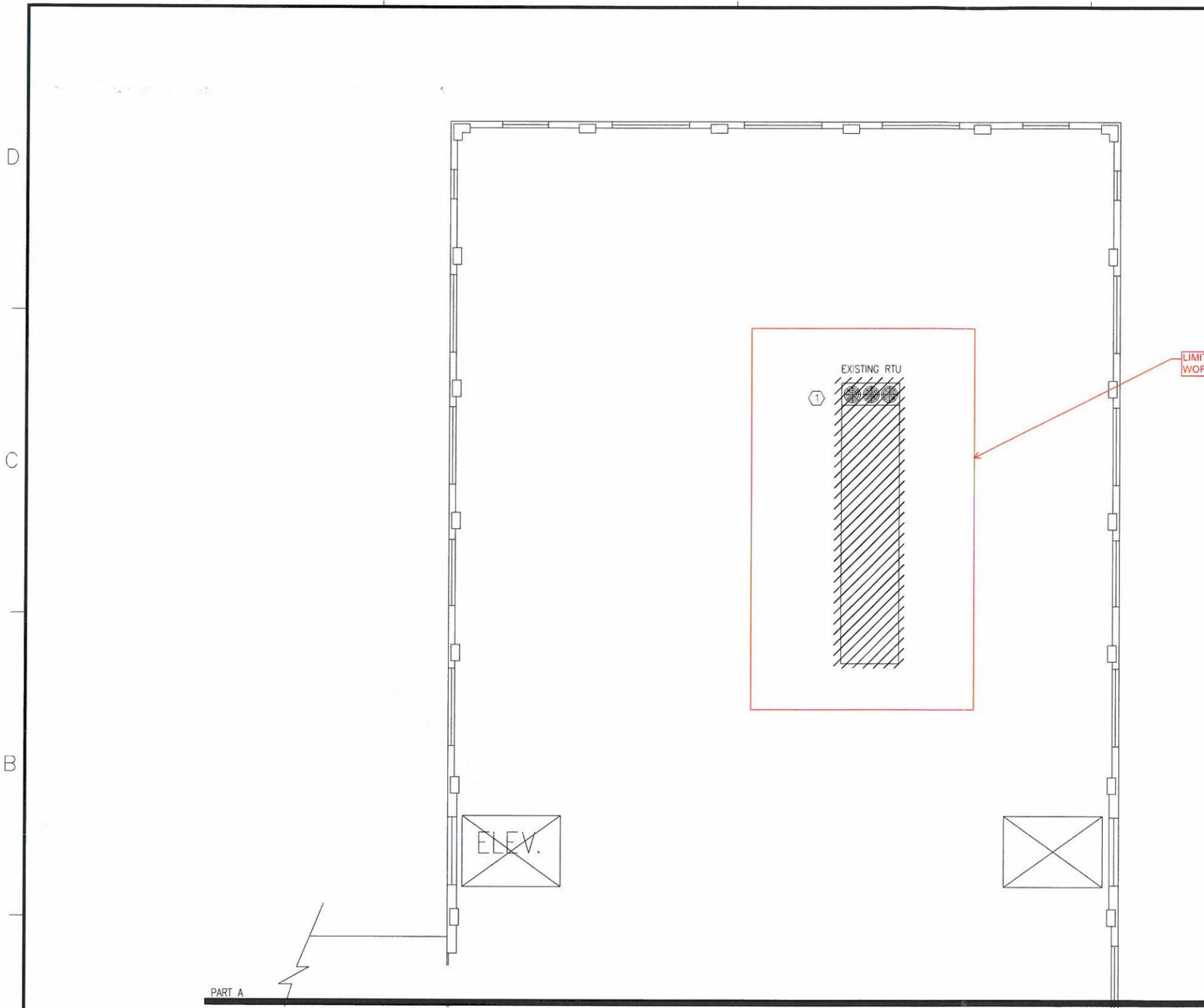
PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.	
SHEET	## OF ##
HD2.0	154-14-XXX

DRAWING REVISION: 10 OCTOBER 2014

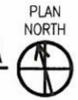
**Building 156**



**Building 170**



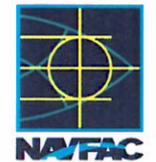
**BUILDING 170 HVAC ROOF DEMO PLAN PART A**  
 1/8"=1'-0"



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING CRAC UNIT TO BE REMOVED.

REV	DESCRIPTION	DATE	APPR
0	35% SUBMISSION	02/23/2015	DM



**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING RTU. EXISTING CONCRETE PAD TO REMAIN. ANY EXISTING DUCTWORK TO REMAIN AND BE DISCONNECTED.

**PRIMA**  
**CONSTRUCTION**

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES A/E ORW A/E CHK A/E

PM/DM XXX

BRANCH MANAGER

FEAD/PM/ME

FIRE PROTECTION X

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC  
 PUBLIC WORKS DEPARTMENT - MAINE  
 PORTSMOUTH NAVAL SHIPYARD  
 KITTERY, MAINE

FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL

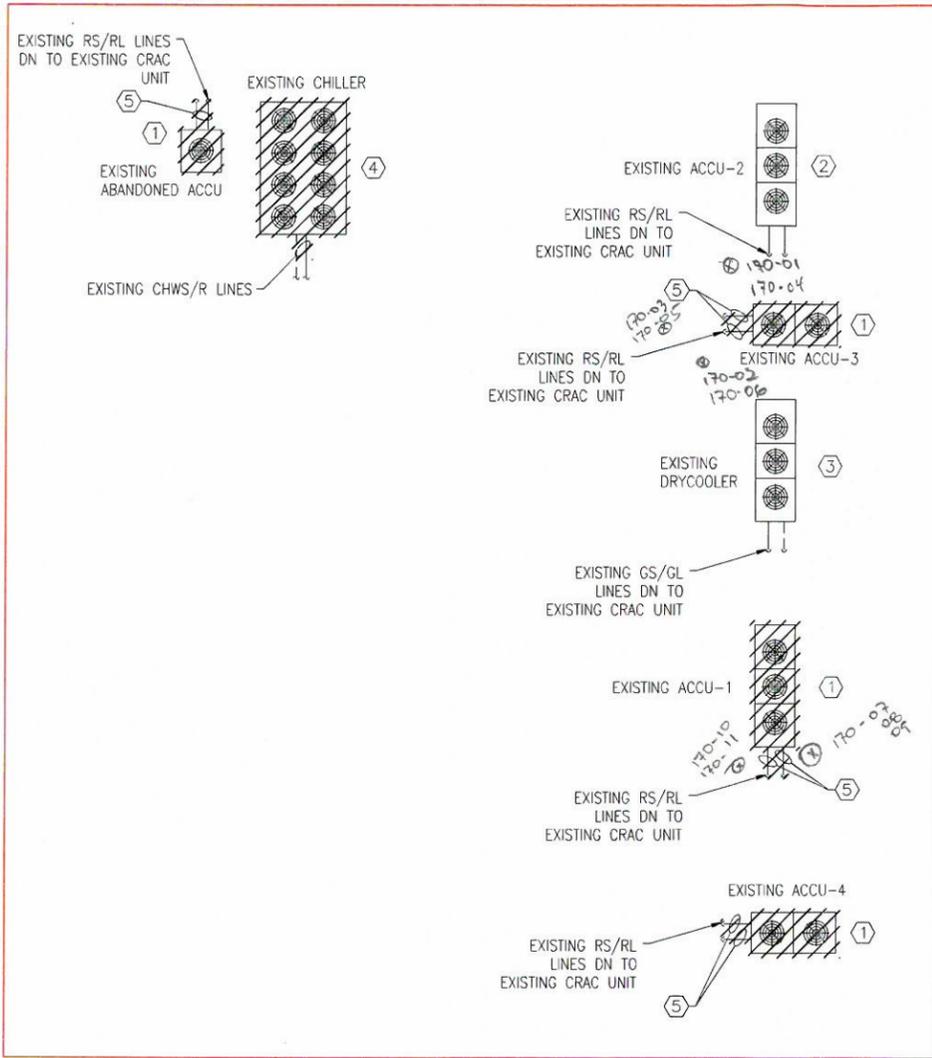
BUILDING 170 HVAC ROOF DEMO PLAN PART A

**GRAPHIC SCALE**



PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.	-
SHEET ## OF ##	HD2.1 170-14-XXX

PART A  
PART B



LIMIT OF HVAC WORK

PART B  
PART C

**BUILDING 170 HVAC ROOF DEMO PLAN PART B**  
1/8" = 1'-0"



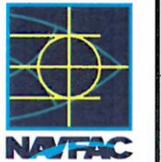
**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING CRAC UNIT TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU AND IT'S ASSOCIATE RS/RL LINES.
2. EXISTING ACCU-2 TO REMAIN.
3. EXISTING DRYCOOLER TO REMAIN.
4. MECHANICAL CONTRACTOR TO REMOVE EXISTING CHILLER AND ASSOCIATED CHWS/R LINES UP TO POINT OF DEMOLITION.
5. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.

NO.	DESCRIPTION	DATE	BY	CHK
0	35% SUBMISSION	02/23/2015	DM	APR



PRIMARY CONSTRUCTION



APPROVED		
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES A/E	DRW A/E	CHK A/E
PA/DM	XXX	
BRANCH MANAGER		
FEAD/PM/ME		
FIRE PROTECTION	X	

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
PUBLIC WORKS DEPARTMENT - NAVAL SHIPYARD - PORTSMOUTH, NH  
PORTSMOUTH NAVAL SHIPYARD - KITTERY, MAINE  
FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL  
BUILDING 170 HVAC ROOF DEMO PLAN PART B

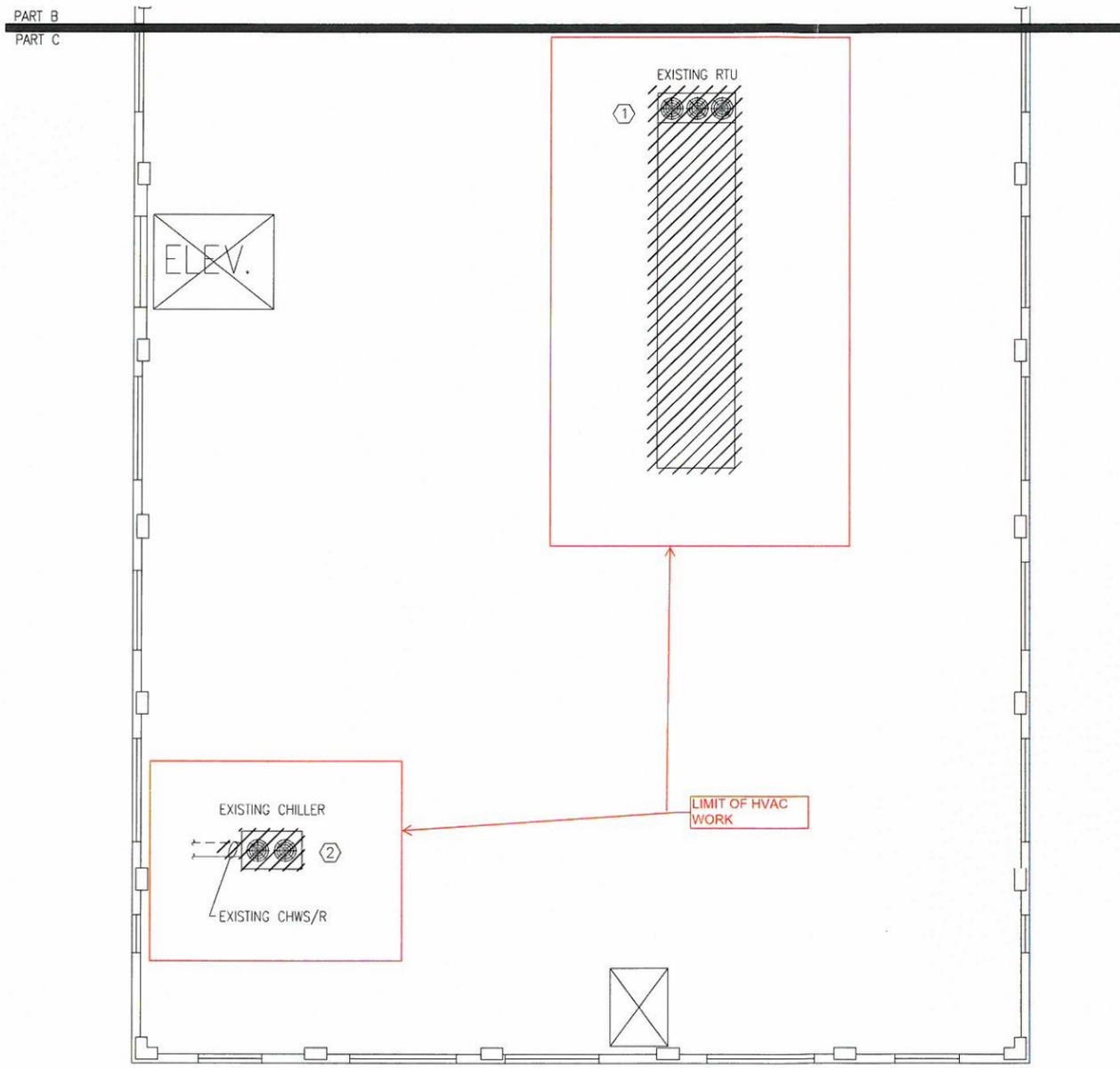
PROJECT NO.:	135091
CONSTR. CONTR. NO.:	N40085-11-D-0502
NAVFAC DRAWING NO.:	-
SHEET ##	OF ##
HD2.2	170-14-XXX

**GRAPHIC SCALE**



CHECK GRAPHIC SCALE BEFORE USING

D  
C  
B  
A



**BUILDING 170 HVAC ROOF DEMO PLAN PART C**  
1/8"=1'-0"



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING RTU & CHILLER TO BE REMOVED.

REV	DESCRIPTION	DATE	BY	APP
0	35% SUBMISSION	02/23/2015	DM	APP



**DEMOLITION KEYNOTES**

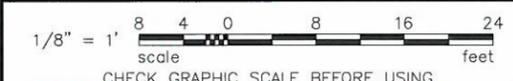
1. MECHANICAL CONTRACTOR TO REMOVE EXISTING RTU. EXISTING CONCRETE PAD TO REMAIN. ANY EXISTING DUCTWORK TO REMAIN AND BE DISCONNECTED.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING CHILLER AND ASSOCIATED CHWS/R PIPES UP TO POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO REMAIN.



APPROVED	DATE	
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES A/E	DRW A/E	CHK A/E
PW/DM	XXX	
BRANCH MANAGER		
FEED/PW/ME		
FIRE PROTECTION	X	

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
 PUBLIC WORKS DEPARTMENT - MAINE  
 PORTSMOUTH NAVAL SHIPYARD  
 KITTERY, MAINE  
 FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
 BUILDING 170 HVAC ROOF DEMO PLAN PART C

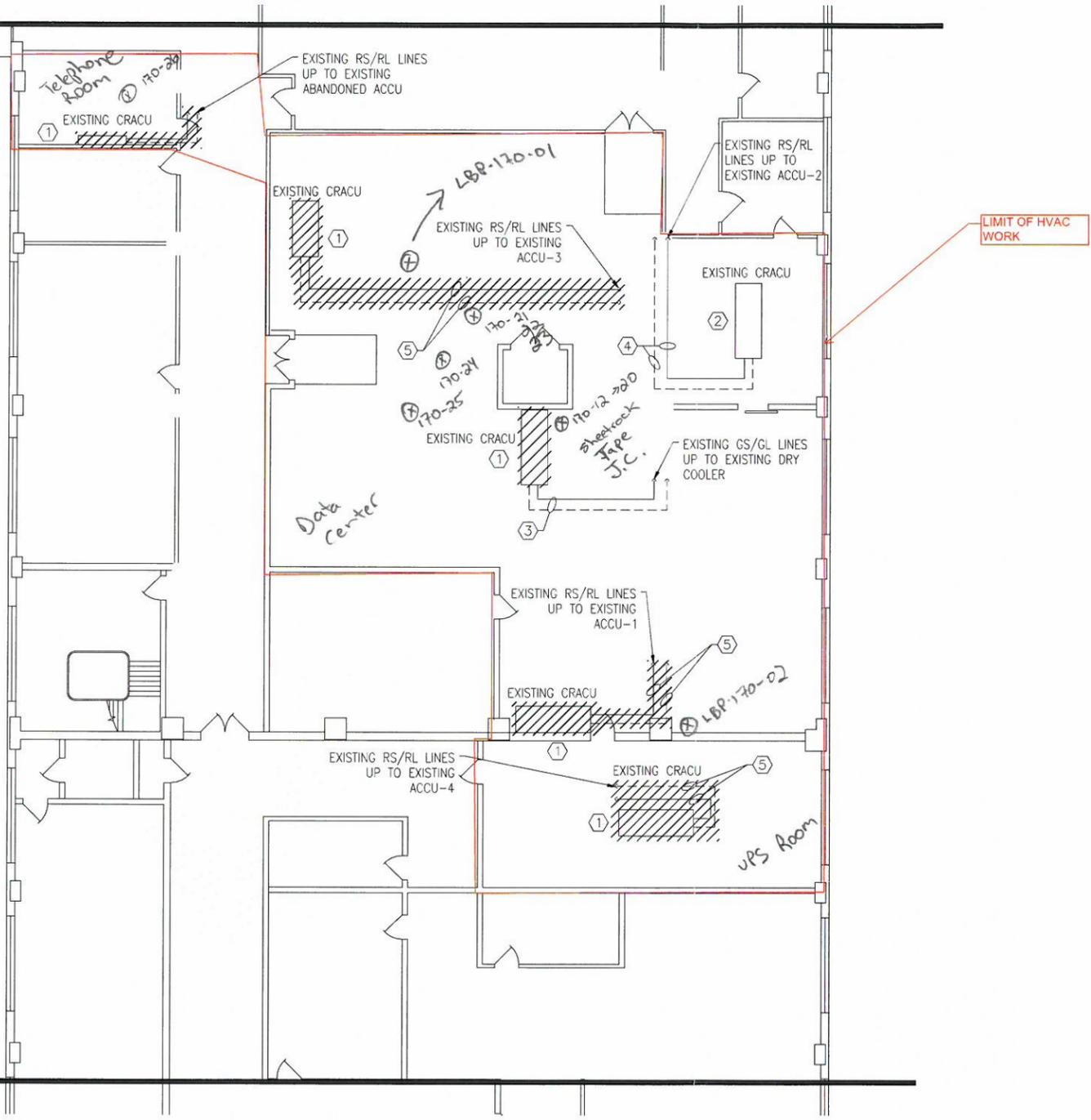
**GRAPHIC SCALE**



EPROJCT NO.:	135091
CONSTR. CONTR. NO.	N40085-11-0-0502
NAVFAC DRAWING NO.	-
SHEET ##	OF ##
<b>HD2.3</b>	<b>170-14-XXX</b>

PART A  
PART B

PART B  
PART C



LIMIT OF HVAC WORK

GENERAL SHEET NOTES

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING CRAC UNIT TO BE REMOVED.

NO.	DESCRIPTION	DATE	APP.
0	35% SUBMISSION	02/23/2015	DM
1			APP



DEMOLITION KEYNOTES

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING CRAC UNIT AND IT'S EXISTING RS/RL LINES. MECHANICAL CONTRACTOR TO DISCONNECT EXISTING CONDENSATE LINES AND WATER LINES.
2. EXISTING CRAC UNIT TO REMAIN.
3. MECHANICAL CONTRACTOR TO REMOVE EXISTING CRAC UNIT. EXISTING GLYCOL LINES ARE TO REMAIN AND BE DISCONNECTED.
4. MECHANICAL CONTRACTOR TO REMOVE EXISTING CRAC UNIT. EXISTING GLYCOL LINES ARE TO REMAIN AND BE DISCONNECTED.
5. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.



APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES A/E   DRW A/E   CHK A/E
PM/DM   XXX
BRANCH MANAGER
FEAD/PM/ME
FIRE PROTECTION   X

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
PUBLIC WORKS DEPARTMENT - NAVAL SHIPYARD - PORTSMOUTH, NH  
PORTSMOUTH NAVAL SHIPYARD  
KITTEERY, MAINE  
FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL  
BUILDING 170 HVAC SIXTH FLOOR DEMO PLAN PART B

GRAPHIC SCALE



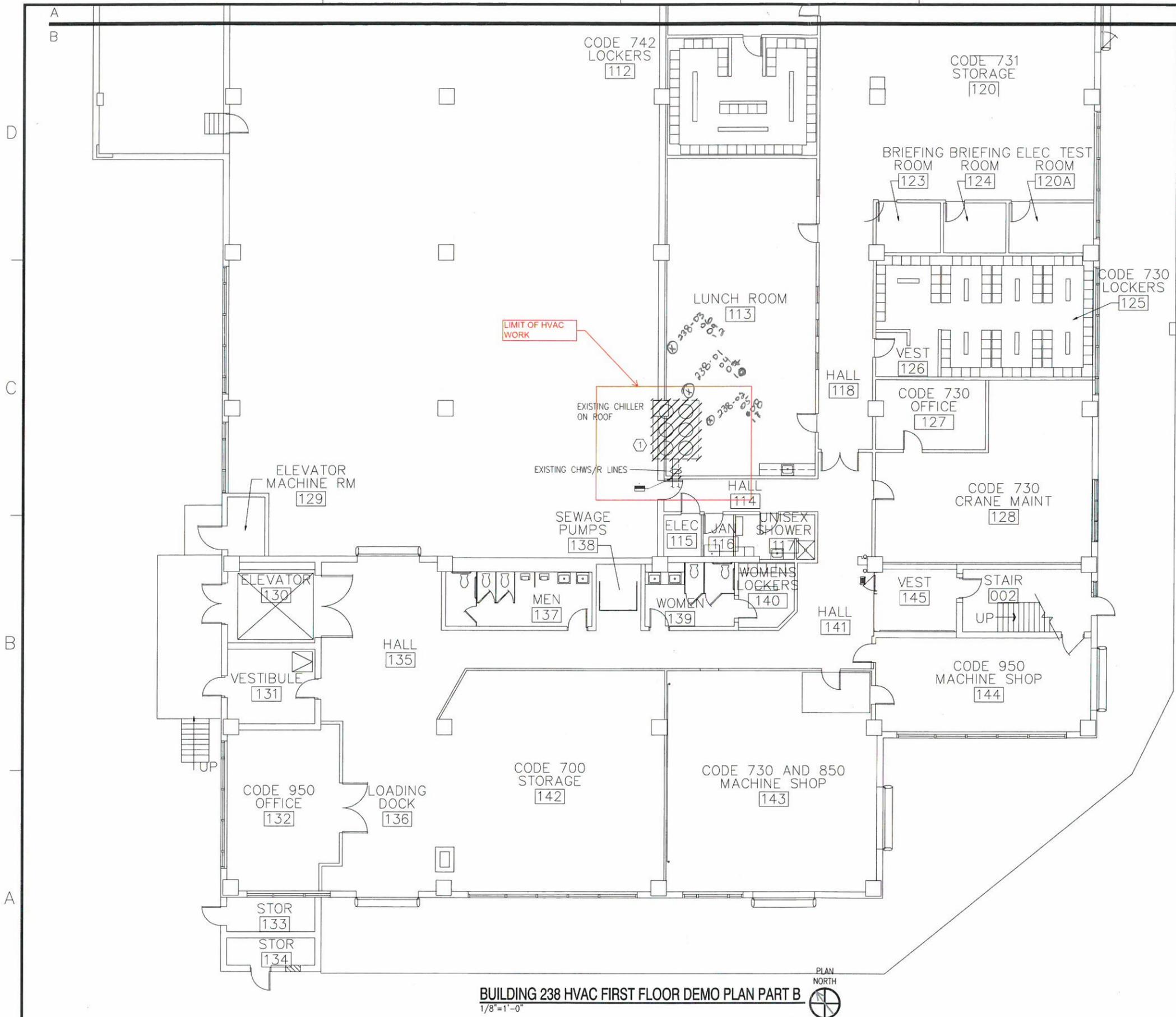
BUILDING 170 SIXTH FLOOR HVAC DEMO PLAN PART B  
1/8"=1'-0"



CHECK GRAPHIC SCALE BEFORE USING

EPROJCT NO.:	135091
CONSTR. CONTR. NO.:	N40085-11-D-0502
NAVFAC DRAWING NO.:	-
SHEET ## OF ##	HD2.0 170-14-XXX

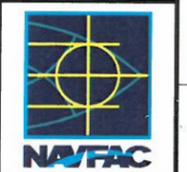
**Building 238**



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING CHILLER TO BE REMOVED.

NO.	DATE	DESCRIPTION
0	02/23/2015	35% SUBMISSION



**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING CHILLER AND ASSOCIATED CHWS/R LINES UP TO POINT OF DEMOLITION AS INDICATED ON THE DRAWING.

**PRIMARY CONSTRUCTION**

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES A/E DRW A/E CHK A/E

PI/DW XXX

BRANCH MANAGER

FRD/PWAE

FIRE PROTECTION X

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	MID-ATLANTIC
PUBLIC WORKS DEPARTMENT - MAINE	NAVAL SHIPYARD - PORTSMOUTH, NH	NAVAL SHIPYARD - PORTSMOUTH, NH
RYAN, MARIE	RYAN, MARIE	RYAN, MARIE

NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND - MAINE  
 PUBLIC WORKS DEPARTMENT - MAINE  
 PORTSMOUTH NAVAL SHIPYARD  
 RITNEY, MARIE

FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL

BUILDING 238 HVAC FIRST FLOOR DEMO PLAN PART B

PROJECT NO. 135091
CONSTR. CONTR. NO. N40085-11-0-0502
NAVFAC DRAWING NO. --
SHEET ## OF ##
HD2.0 238-14-XXX

**GRAPHIC SCALE**

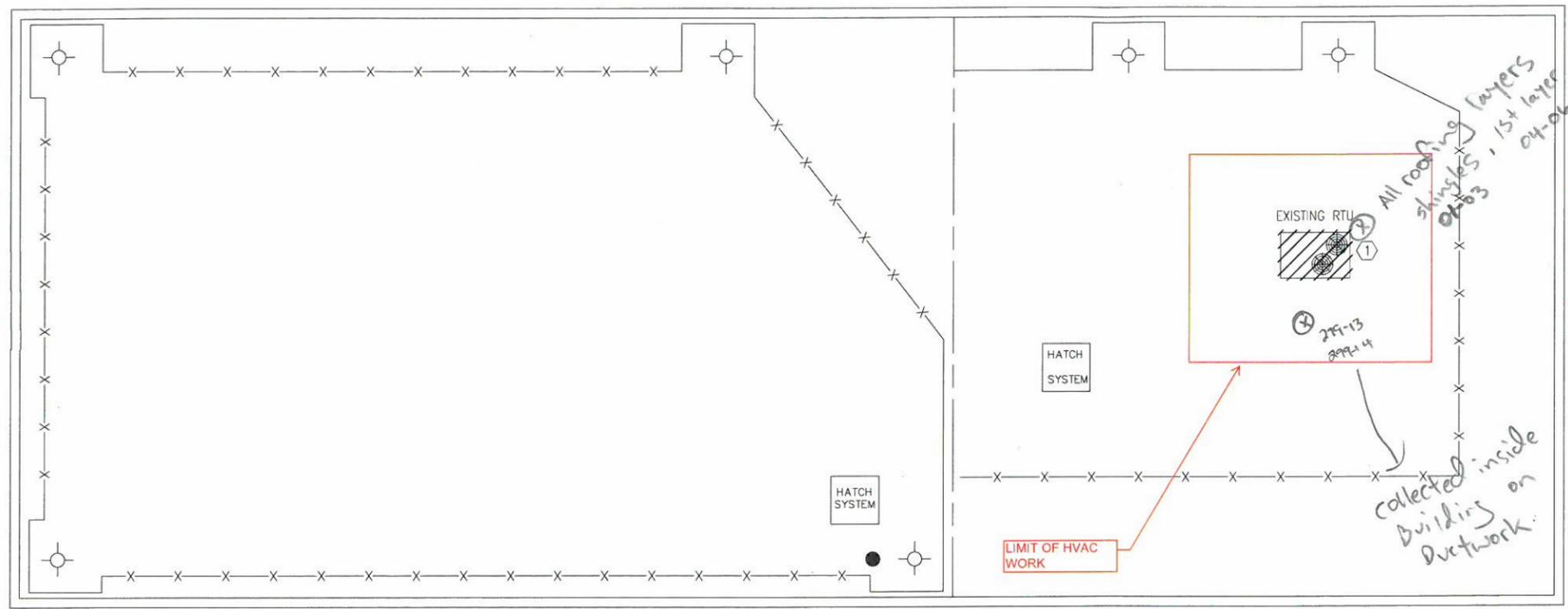


**BUILDING 238 HVAC FIRST FLOOR DEMO PLAN PART B**  
 1/8"=1'-0"



## **Building 299**

D  
C  
B  
A



**BUILDING 299 HVAC ROOF DEMO PLAN**  
1/8"=1'-0"



**GENERAL SHEET NOTES**

- MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
- ALL EXISTING THERMOSTATS ASSOCIATED WITH EQUIPMENT TO BE REMOVED ARE TO BE REPLACED WITH NEW BACNET CAPABLE THERMOSTATS AND TIED INTO THE NEW SYSTEM.

**DEMOLITION KEYNOTES**

- MECHANICAL CONTRACTOR TO REMOVE EXISTING RTU. EXISTING DUCTWORK TO REMAIN AND BE DISCONNECTED.

REV	DESCRIPTION	DATE	DM	APP
0	35% SUBMISSION	02/23/2015		



APPROVED FOR COMMANDER NAVFAC

SATISFACTORY TO DATE

DES A/E DRW A/E CHK A/E

PW/DW XXX

BRANCH MANAGER

FED/PMAE

FIRE PROTECTION X

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
PUBLIC WORKS DEPARTMENT - MAINE  
PORTSMOUTH NAVAL SHIPYARD  
KITTERY, MAINE

FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL

BUILDING 299 HVAC ROOF DEMO PLAN

EPROJECT NO.: 135091

CONSTR. CONTR. NO. N40089-11-D-00002

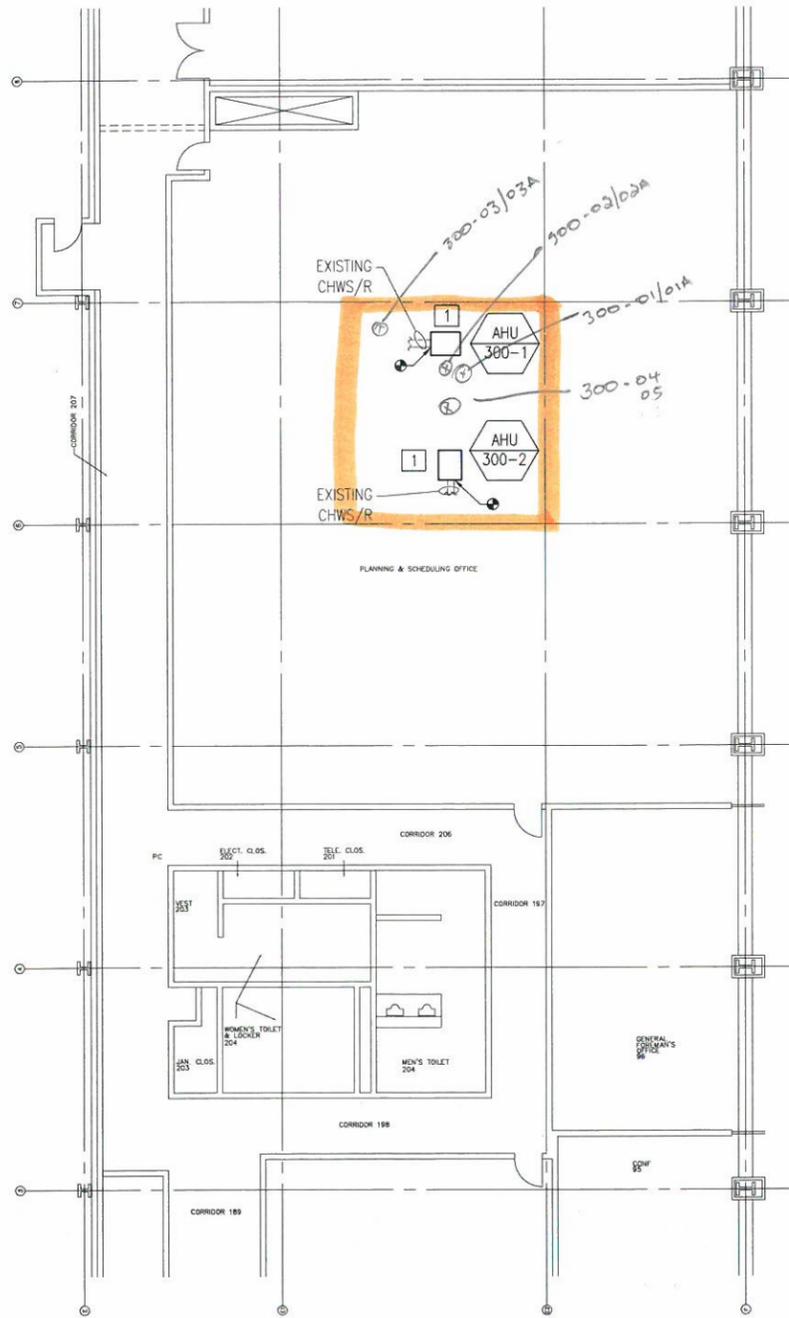
NAVFAC DRAWING NO. --

SHEET # OF # HD2.0 299-14-XXX

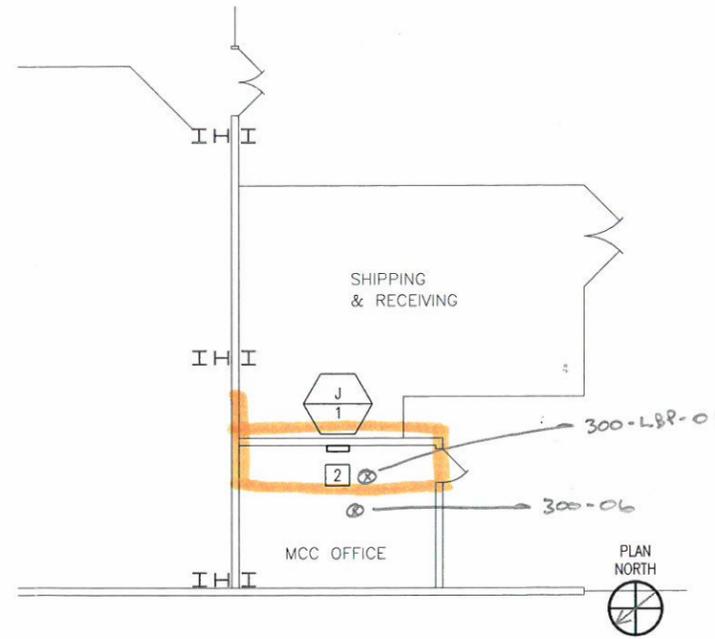
**GRAPHIC SCALE**



**Building 300**



**BUILDING 300 HVAC SECOND FLOOR PARTIAL PLAN**  
1/8"=1'



**BUILDING 300 HVAC FIRST FLOOR PARTIAL PLAN**  
1/8"=1'



**NEW WORK KEYNOTES**

1. FURNISH AND INSTALL NEW AHU. CONNECT TO EXISTING CHWS/R LINES, CONDENSATE LINES AND CONTROL WIRING. PROVIDE WITH NEW DDC COMPATIBLE THERMOSTAT IN SAME LOCATION AS THE PREVIOUS THERMOSTAT AND CONNECT TO EXISTING CONTROL WIRING.
2. COORDINATE NEW DDC JACE BOX WITH TRADE CONTRACTOR. FIELD COORDINATE EXACT LOCATION WITH NAVFAC AND TRADE CONTRACTOR.

REV	DESCRIPTION	DATE	BY	APP
2	90% SUBMISSION	08/04/2015	DM	
1	80% SUBMISSION	04/24/2015	DM	
0	35% SUBMISSION	02/23/2015	DM	



APPROVED  
FOR COMMANDER NAVFAC  
ACTIVITY

SUBMITTAL TO DATE  
DES: JC    DRW: SV    CHK: DM  
P/E: PETER STOCKLESS  
BRANCH MANAGER: BRUCE LITALIEN  
FIELD PM/ME: AMIN BAHRLOUR PM&E

FIRE PROTECTION: X  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
NAVAL SHIPYARD - PORTSMOUTH, NH  
PORTSMOUTH NAVAL SHIPYARD - KITTERY, MAINE

DEPARTMENT OF THE NAVY  
FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL

BUILDING 300 HVAC SECOND FLOOR PARTIAL PLAN

PROJECT NO.: 135091  
CONSTR. CONTR. NO.: N40085-XX-C-XXX  
NAVFAC DRAWING NO.: --

SHEET ## OF ##  
M2.0 300-14-XXX

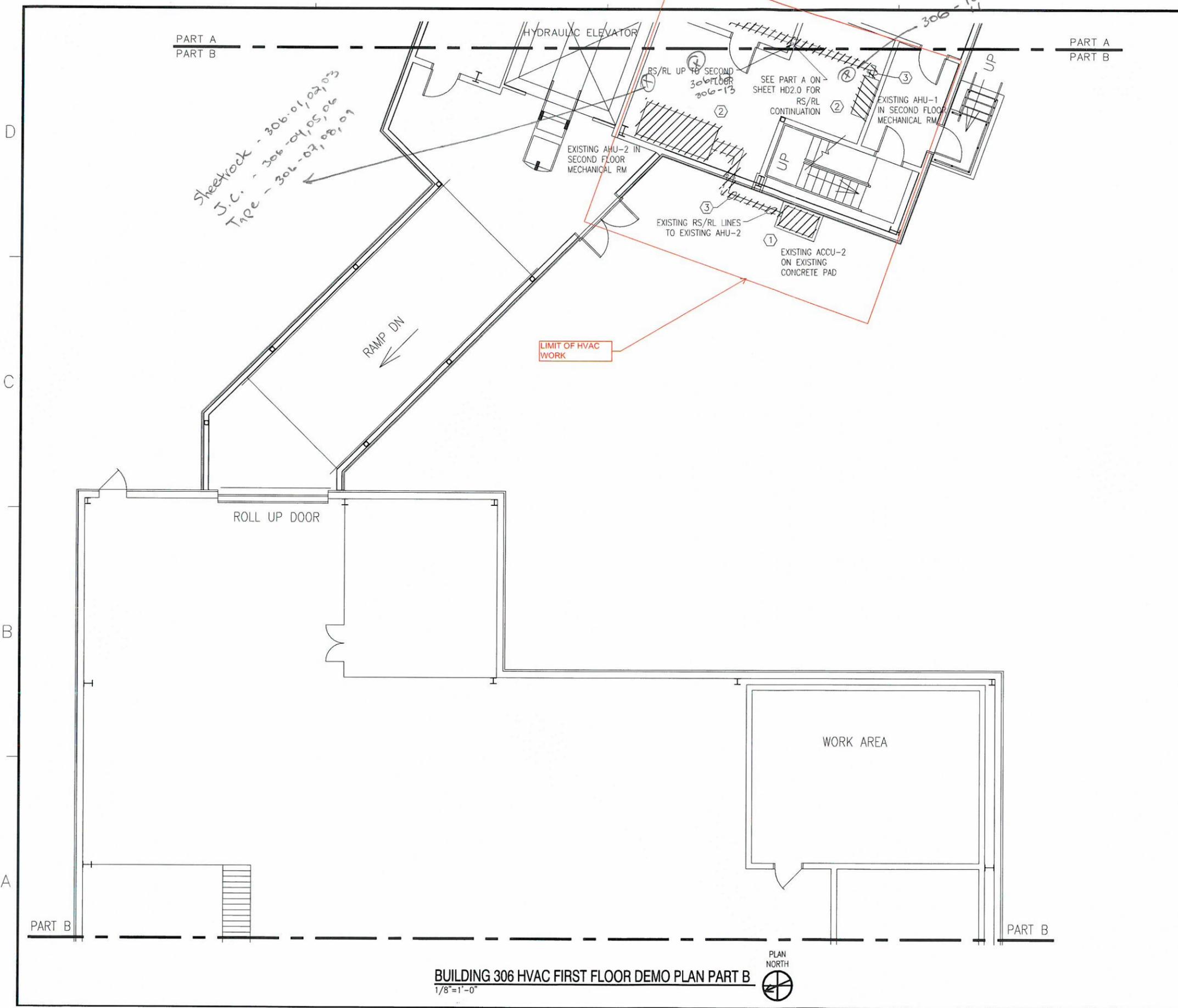
DRAWING REVISION: 10 OCTOBER 2014

**GRAPHIC SCALE**



**Building 306**





PART A  
PART B

PART A  
PART B

Sheetrock - 306-01, 02, 03  
J.C. - 306-04, 05, 06  
Tape - 306-07, 08, 09

LIMIT OF HVAC WORK

**BUILDING 306 HVAC FIRST FLOOR DEMO PLAN PART B**  
1/8"=1'-0"



**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AHU UNIT TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU. RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO REMAIN.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING AHU UNITS. RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONDENSATE LINES TO REMAIN AND BE DISCONNECTED.
3. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.

SYN	DESCRIPTION	DATE	APPR
0	35% SUBMISSION	02/23/2015	DM



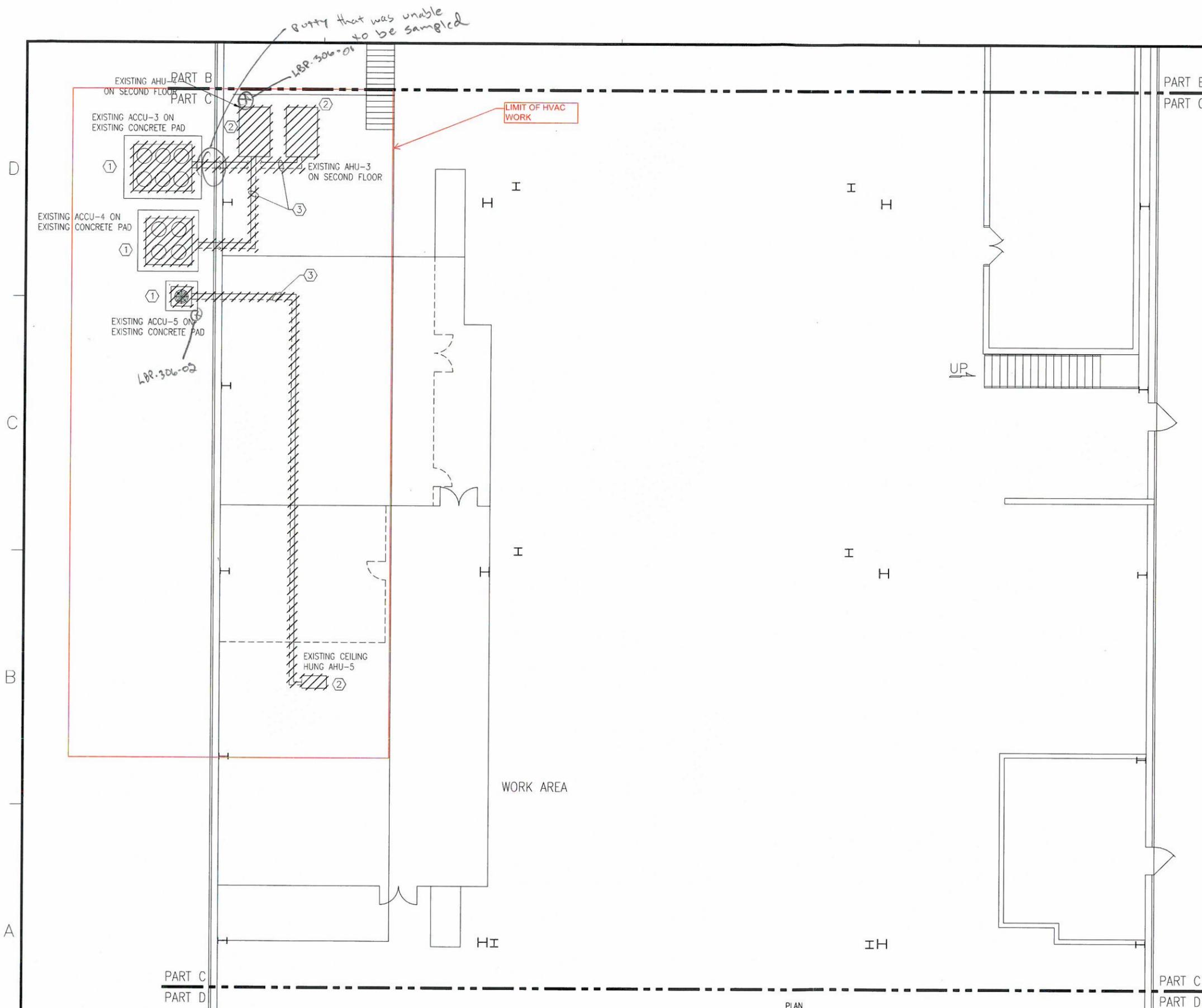
DES	A/E	DRW	A/E	CHK	A/E
PM/DM	XXX				
BRANCH MANAGER					
LEAD/PM/AC					
FIRE PROTECTION					
X					

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
PUBLIC WORKS DEPARTMENT - MAINE  
PORTSMOUTH NAVAL SHIPYARD  
FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL  
BUILDING 306 HVAC FIRST FLOOR DEMO PLAN PART B

PROJECT NO.	135091
CONSTR. CONTR. NO.	N40085-11-D-0502
NAVFAC DRAWING NO.	---
SHEET	## OF ##
HD2.1	306-14-XXX

**GRAPHIC SCALE**





**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AHU UNIT TO BE REMOVED.

**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU. RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO REMAIN.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING AHU UNITS. RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONDENSATE LINES TO REMAIN AND BE DISCONNECTED.
3. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.

NO.	DESCRIPTION	DATE	BY
0	35% SUBMISSION	02/23/2015	DM
			APPR



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SAISFACTORY TO DATE

DES A/E | DRW A/E | CHK A/E

PM/DM XXX

BRANCH MANAGER

FEAD/P/NAE

FIRE PROTECTION X

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
 PUBLIC WORKS DEPARTMENT - MAINE  
 PORTSMOUTH NAVAL SHIPYARD  
 KITTERY, MAINE  
 FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL  
 BUILDING 306 HVAC FIRST FLOOR DEMO PLAN PART C

PROJECT NO.: 135091

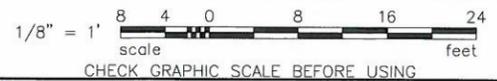
CONSTR. CONTR. NO. N40085-11-0-0502

NAVFAC DRAWING NO. HD2.2

SHEET ## OF ##

306-XXX 306-14-XXX

**GRAPHIC SCALE**



**BUILDING 306 HVAC FIRST FLOOR DEMO PLAN PART C**  
1/8"=1'-0"



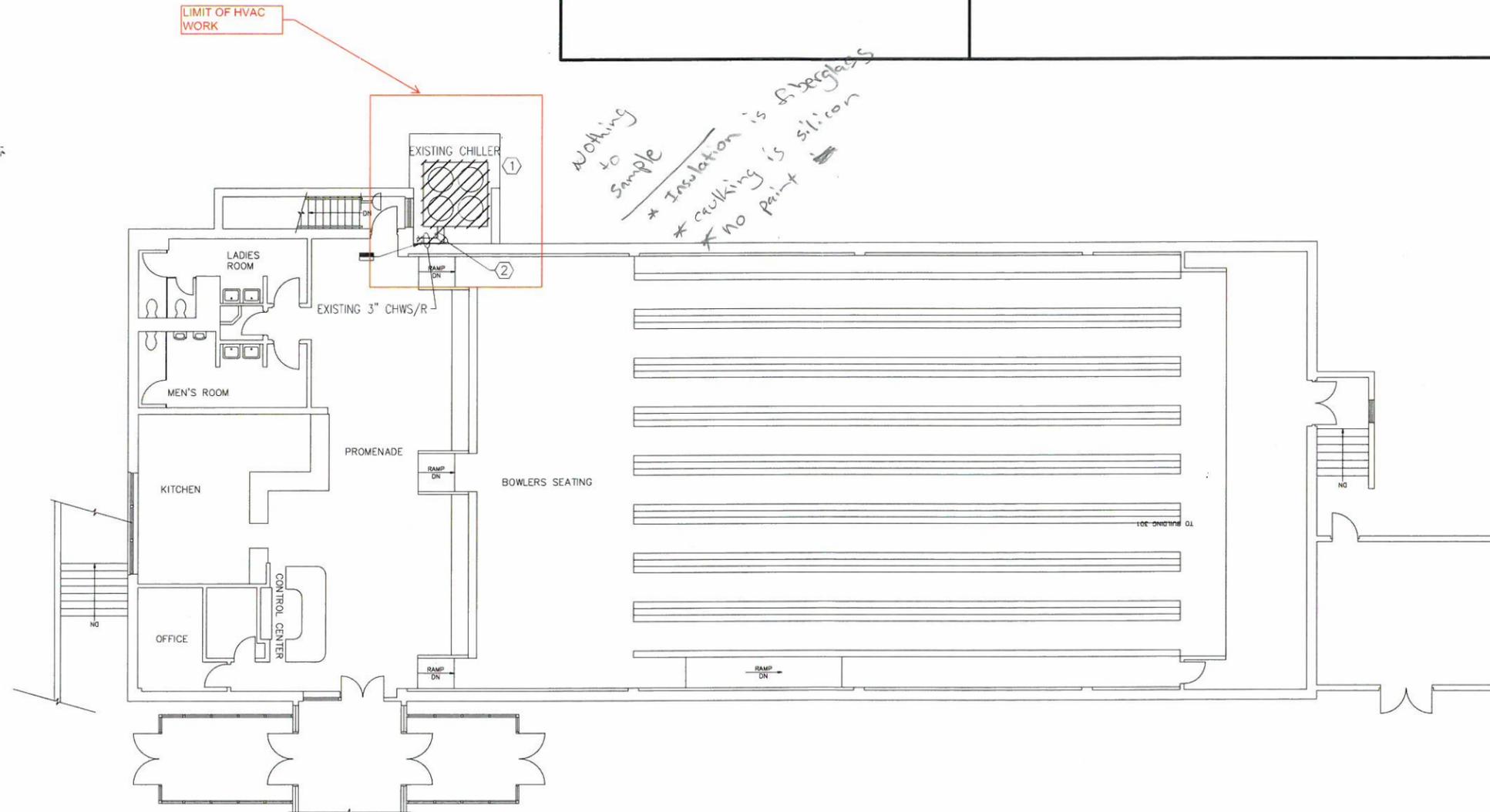
**Building 308**

**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM

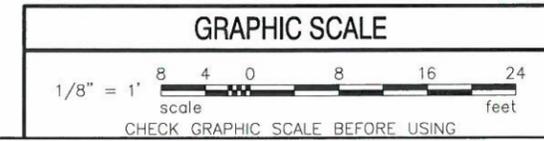
**DEMOLITION KEYNOTES**

1. EXISTING CHILLER AND ASSOCIATED CHWS/R PIPES TO BE REMOVED UP TO POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO REMAIN.



*Nothing to sample  
 \* Insulation is fiberglass  
 \* caulking is silicon  
 \* no paint*

**BUILDING 308 HVAC FIRST FLOOR DEMO PLAN**  
 1/8"=1'-0"



REV	DESCRIPTION	DATE	BY	APP
0	35% SUBMISSION	07/23/2015		DM



**PRIMARY CONSTRUCTION**



APPROVED

FOR COMMANDER NAVAC

ACTIVITY

SATISFACTORY TO DATE

DES A/E | DRW A/E | CHK A/E

FW/DM XXX

BRANCH MANAGER

FEAD/PMAE

FIRE PROTECTION X

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 PUBLIC WORKS DEPARTMENT - MAINE  
 PORTSMOUTH NAVAL SHIPYARD  
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
 NAVAL SHIPYARD - PORTSMOUTH, NH  
 KITTERY, MAINE

FY 16 ENERGY PROJECT  
 TASK 1-B-R-22-DDL

BUILDING 308 HVAC FIRST FLOOR DEMO PLAN

EPROJECT NO.: 135091

CONSTR. CONTR. NO. N40085-11-0-0502

NAVAC DRAWING NO. -

SHEET ## OF ##

HD2.0 308-14-XXX

**Building 315**

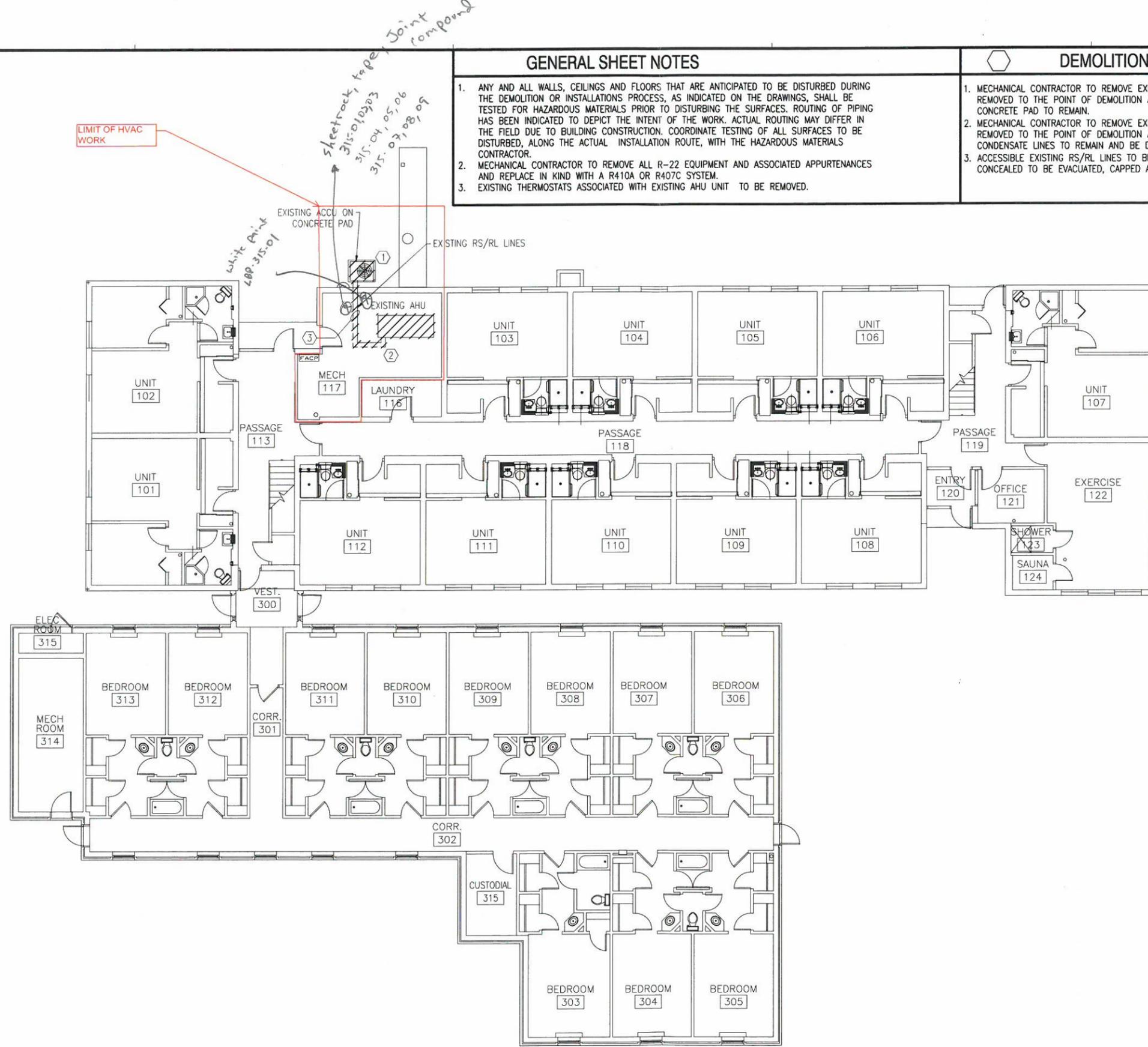
**GENERAL SHEET NOTES**

1. ANY AND ALL WALLS, CEILINGS AND FLOORS THAT ARE ANTICIPATED TO BE DISTURBED DURING THE DEMOLITION OR INSTALLATIONS PROCESS, AS INDICATED ON THE DRAWINGS, SHALL BE TESTED FOR HAZARDOUS MATERIALS PRIOR TO DISTURBING THE SURFACES. ROUTING OF PIPING HAS BEEN INDICATED TO DEPICT THE INTENT OF THE WORK. ACTUAL ROUTING MAY DIFFER IN THE FIELD DUE TO BUILDING CONSTRUCTION. COORDINATE TESTING OF ALL SURFACES TO BE DISTURBED, ALONG THE ACTUAL INSTALLATION ROUTE, WITH THE HAZARDOUS MATERIALS CONTRACTOR.
2. MECHANICAL CONTRACTOR TO REMOVE ALL R-22 EQUIPMENT AND ASSOCIATED APPURTENANCES AND REPLACE IN KIND WITH A R410A OR R407C SYSTEM.
3. EXISTING THERMOSTATS ASSOCIATED WITH EXISTING AHU UNIT TO BE REMOVED.

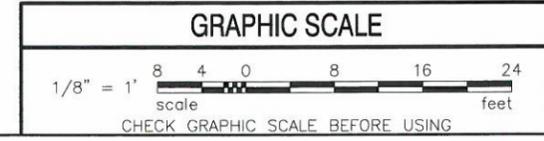
**DEMOLITION KEYNOTES**

1. MECHANICAL CONTRACTOR TO REMOVE EXISTING ACCU. RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONCRETE PAD TO REMAIN.
2. MECHANICAL CONTRACTOR TO REMOVE EXISTING AHU UNITS. RS/RL LINES TO BE REMOVED TO THE POINT OF DEMOLITION AS INDICATED ON THE DRAWING. EXISTING CONDENSATE LINES TO REMAIN AND BE DISCONNECTED.
3. ACCESSIBLE EXISTING RS/RL LINES TO BE REMOVED. ANY REMAINING RS/RL CONCEALED TO BE EVACUATED, CAPPED AND ABANDONED IN PLACE.

LIMIT OF HVAC WORK



**BUILDING 315 HVAC FIRST FLOOR DEMO PLAN**  
1/8"=1'-0"



DATE	DM	APPR
10/23/2015		
DESCRIPTION	SYN	35% SUBMISSION
	0	

**PRIMARY CONSTRUCTION**

APPROVED: \_\_\_\_\_

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES A/E \_\_\_\_\_ CHK A/E \_\_\_\_\_

FW/DM XXX

BRANCH MANAGER

FEAD/PWAE

FIRE PROTECTION X

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC  
PUBLIC WORKS DEPARTMENT - MAINE  
PORTSMOUTH NAVAL SHIPYARD  
NAVAL SHIPYARD - KITTERY, MAINE

FY 16 ENERGY PROJECT  
TASK 1-B-R-22-DDL

BUILDING 315 HVAC FIRST FLOOR DEMO PLAN

EPROJECT NO.: 135091

CONSTR. CONTR. NO. N40085-11-D-0502

NAVFAC DRAWING NO. --

SHEET ## OF ##

HD2.0 315-14-XXX

**Appendix D**  
**Building 13 Hazardous Building Material**  
**Assessment Report**

10-1066-5  
June 11, 2015



Naval Facilities Engineering Command (NAVFAC)  
Portsmouth Naval Shipyard  
Kittery, ME 03904

Re: **Hazardous Building Materials Assessment  
Portsmouth Naval Shipyard  
Building 13  
Kittery, ME 03904**

To Whom It May Concern,

Tighe & Bond conducted a pre-renovation hazardous building materials assessment (HBMA) at the referenced structure. The evaluation was performed by Tighe & Bond's Maine certified asbestos inspectors Jason Hayward (AI-0683) and Jon Van Hazinga (AI-0664) on March 18, 2015. The purpose of the evaluation was to assist the Portsmouth Naval Shipyard (PNSY) in identifying asbestos-containing building materials (ACBM) and hazardous materials / components requiring abatement or mitigation in the event a renovation is planned.

The HBMA included the following tasks:

- Assess, sample and quantify presumed asbestos-containing materials (PACM) that may be disturbed during building renovation associated with the NAVFAC energy project as directed by NAVFAC representatives or demolition drawings provided by Acadia Engineers & Constructors (AEC)
- Perform polarized light microscopy (PLM) laboratory analysis of PACM bulk samples
- Perform confirmatory transmission electron microscopy (TEM) laboratory analysis of floor tiles testing negative for asbestos by PLM analysis
- Assess and inventory possible hazardous materials / components including building materials presumed to contain polychlorinated biphenyls (PCBs) and lead based paints (LBP) that may be disturbed during building renovation associated with the NAVFAC energy project
- Collect and submit LBP samples for SW846-7420/3051 laboratory analyses and PCB samples for total PCB analyses
- Collect and submit painted and unpainted building materials presumed to be representative of the renovation waste stream for Toxicity Characteristic Leaching Procedure (TCLP) analysis
- Provide a report of findings together with recommendations for compliance with applicable asbestos and hazardous material regulations



## Asbestos Survey

Prior to any type of building demolition/renovation, a survey is required to identify and quantify asbestos. This survey is required by Maine asbestos regulations Title 38, Chapter 12-A: Asbestos §1271-§1284 (Department of Environmental Protection); Chapter 425 – Asbestos Management Regulations, effective April 3, 2011 (Department of Environmental Protection); the National Emission Standards for Hazardous Air Pollutants (NESHAP) Standard for Demolition and Renovation 40 CFR Part 61.145, as well as applicable portions of the Occupational Safety and Health Administration (OSHA) CFR 1926.1101 asbestos in construction regulations. These regulations must be implemented during all facets of asbestos abatement and demolition/renovation as required by law.

The asbestos survey consisted of a thorough assessment throughout accessible interior and exterior locations of Building 13 as depicted on NAVFAC energy project demolition drawings provided by AEC and under the direction of a NAVFAC representative. Supplemental information regarding presence or absence of asbestos in select building materials was also provided by PNSY representative Delano Leonard through the use of previous assessment data. The purpose of the assessment was to determine the presence or absence of PACM that may be impacted during the proposed renovation. Bulk samples of PACM were collected from each homogenous group of materials in general accordance with standards described in the Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) Regulations for schools. A minimum of three samples of each suspect homogeneous group of materials are typically collected (contingent upon quantity) to confirm or deny the presence of asbestos content in the homogenous materials. The PACM is considered negative for asbestos only when the results of all samples indicate no asbestos detected above the Maine Department of Environmental Protection (MEDEP) threshold of 1% or greater asbestos.

Following collection, bulk samples were submitted to ProScience Analytical Services (PAS) of Woburn, Massachusetts for analysis via polarized light microscopy (PLM) with dispersion staining in accordance with the EPA/600/R-93/116 method. Although PLM Method EPA/600/R-93/116 is designated by the EPA and the state, the PLM methodology occasionally provides false negative analysis for asbestos. This occurs in non-friable organically bound (NOB) materials such as floor coverings, roofing materials, caulking, etc. In these instances, EPA guidance document suggests that TEM be considered to provide more definitive analysis of these types of materials. At the request of PNSY a confirmatory sample of floor tile which tested non-detect for asbestos by PLM method be analyzed by TEM method.

TEM 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 assessment information for each PACM evaluated is summarized in the *Asbestos-Containing Materials Inventory* provided in Appendix A as Table 1. The inventory lists PACM sampled, sample result, sample numbers, material locations and specific comments relative to materials observed. Additionally, the *PAS laboratory analytical report* is included in Appendix B.

The asbestos containing materials discovered throughout the structure shall be removed by a licensed asbestos abatement contractor prior to any activity that has the potential to render these materials friable. We also recommend the following general requirements:

- A standardized Scope of Work/Specification should be established for the removal of asbestos containing materials at the structure. We recommend that the specification be developed by a licensed asbestos designer and it should address such important issues as regulatory requirements, notification procedures, air sampling requirements and other pertinent information.
- A Form N Asbestos Project Notification must be prepared by a licensed asbestos contractor and postmarked to Maine DEP at least ten (10) calendar days or received five (5) business days prior to the onset of asbestos abatement activity.
- Any employees who may work in this structure should be notified that asbestos containing materials are present and to not disturb them without proper training.

## **Hazardous Materials Survey**

Tighe & Bond performed a visual inspection of building equipment and materials that could contain hazardous components and have the potential for disturbance during a renovation.

Example of materials or components which are typically encountered in a building renovation consist of: heating oils, fire extinguishers, mercury containing thermostats, fluorescent light tubes and associated ballasts. The results of our survey confirmed the presence of hazardous materials/equipment within Building 13 and they are summarized in the *Miscellaneous Hazardous Materials Inventory* provided in Appendix A as Table 2.

These components should be removed / recycled or disposed of by trained personnel prior to demolition/renovation. Sampling and analyses of suspect hazardous materials were not performed as part of this scope of work, nor is it necessary to do so.

## **Lead Based Paint**

The Occupational Safety and Health Administration (OSHA) require special work practices if lead paint is disturbed during renovation. The lead paint must be handled in general accordance with the lead regulations, as well as any other state, Federal or local regulations.

Lead paint samples were collected from representative types of paint and were analyzed by ProScience Analytical Services, Inc. in Woburn, MA. The samples were analyzed by SW846-7420/3051 and a summary of the test results is presented in Appendix A as Table 4. The laboratory data are shown in Appendix B. The MEDEP defines lead containing paint as those that have greater than 0.5% lead by weight in the paint mixture.

The test results in Table 4 show that two of the five samples collected, contain lead that exceeds the 0.5% lead by weight threshold. One sample was collected from each different paint application that may be disturbed during the building renovation. Samples that exceeded the 0.5% lead by weight are discussed in Table 4 in Appendix A.

Please note that paint can also contain hazardous levels of other materials such as cadmium, chromium, mercury, etc. which were not evaluated as part of Tighe & Bond's scope of work for this survey.

The lead samples were collected to assist PNSY in complying with OSHA regulations for construction activities under 29 CFR 1926.26 for the renovation areas. Further sampling may need to be performed if the scope of work for this project changes or if further delineation of the painted areas is required.

## **Lead Toxicity Characteristic Leaching Procedure**

An evaluation and sample collection of building materials / components expected to be disturbed during the renovation and have the potential to contain lead leachate concentrations greater than five (5) milligrams per liter (mg/L) was performed. The purpose of this sample collection was to determine if the generated renovation waste stream is subject to disposal requirements under the Federal EPA "Resource Conservation and Recovery Act" (RCRA - 40 CFR Part 261). In order to maintain compliance with RCRA, all lead containing material that is subject to solid waste disposal requirements must be properly evaluated using one of several types of Toxicity Characteristic Leaching Procedure (TCLP) testing methods to determine if the materials are characteristically hazardous.

TCLP-01 was collected utilizing a "Composite Sample and Demolish Method" to assess the lead content of the entire waste stream in lieu of painted components only. These materials included percentages of unpainted wood, asphalt-based roofing, concrete, and painted wood. Each of these materials typically become co-mingled during demolition and disposed of together, within a construction and demolition (C&D) debris type waste stream.

Results of the aforementioned testing indicate that TCLP-01 were below the 5.0 mg/L threshold for lead. Refer to Appendix B for the *PAS TCLP laboratory results*. Results of the testing have determined that demolition debris associated with the Building 13 structure can be disposed of as solid waste without special characterization. However, if the demolition contractor elects to dispose of these materials separately or in a manner different than the intended waste stream as defined above, additional TCLP samples should be collected. Depending upon the actual disposal location, landfill facilities can and do implement specific testing requirements for materials being brought to their respective landfills. These testing requirements are typically borne by the contractor during renovation / demolition activities.

Regardless of TCLP results, workers should wear personal protective equipment as necessary during any lead paint disturbance.

## **Polychlorinated Biphenyls (PCBs) in Building Materials**

### **Discussion**

PCBs in building materials have received extensive attention over recent years by environmental regulators, consultants, and contractors, and PCBs are increasingly being identified in buildings that may undergo demolition or renovation. Buildings/structures that were constructed (or renovated) between the 1950s and the late 1970s have a greater potential to contain PCBs in certain building materials.

It is important to note that EPA regulations which govern the Toxic Substance Control Act (TSCA) requirements including PCBs and PCB Bulk Product Wastes, do not require the sampling for PCBs prior to building demolition or renovation. Therefore there is no current regulatory requirement to sample for PCBs (local, state or federal).

Regardless of the regulatory sampling requirements many waste/recycling receiving facilities may request PCB sampling to be performed. If it is suspected that PCBs could be present, it is important to also mitigate potential human health and safety risk to abatement/demolition contractors and owners' potential liability associated with the proper recycling/disposal of certain generated demolition waste materials.

### **Sampling Summary**

Tighe & Bond conducted an investigation of certain accessible building materials that are suspected to contain PCBs. The intent of this investigation was to identify those suspect PCB sources that, if found to contain PCBs in excess of the Bulk Product threshold of 50 parts per million (PPM) as established in the Toxic Substance Control Act (TSCA) Regulations, would require special handling and disposal in the event demolition/renovation is scheduled.

Two (2) samples of bulk product materials in the form of window glazings were collected and submitted to ESS Laboratory of Cranston, Rhode Island for PCB analysis. PCB concentrations were not detected above the method reporting limit, well below the 50 PPM TSCA threshold, were reported for each of the two samples submitted for analysis. As such, these materials are considered an "excluded PCB product" and are therefore not subject to the TSCA regulations.

Material types sampled, material location and PCB results are summarized in the *PCB Sampling Analytical Results Table* located in Appendix A as Table 3. Appendix B contains the *ESS Laboratory Report*.

Please do not hesitate to call the undersigned at (508) 471-9614 if you have any questions concerning this information or if you wish to implement any of our recommendations.

Very truly yours,

**TIGHE & BOND, INC.**

Jason Hayward  
EH&S Compliance Specialist  
Maine Asbestos Inspector (AI-0683)

### **Enclosures**

**Appendix A: Inventory Tables**

**Appendix B: Sample Laboratory Reports**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 13  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
Previously Tested by PNSY	TSI	First Floor: Room 102	120 LF  See comment	Reported Positive by PNSY	Approximately 8 pipe lines, from 1-2" in diameter. Piping is exposed and originates from the basement to the ceiling. Quantities to be removed will be determined by amount of impact to be caused by HVAC renovations.
13-01 13-02 13-03	Glue daubs (brown)	First Floor: Room 102 & Server Room	-	Negative	Used to adhere 12" ceiling tile to plaster ceiling. Material tested as non-asbestos.
Previously Tested by PNSY	9" x 9" floor tile	First Floor: Room 102 & Server Room, Safe, Offices 103 & 104	See comment	Reported Positive by PNSY	Two layers of tile of varying colors. Associated mastic tested negative for asbestos (Samples 13-04, 13-05, 13-06). Quantities to be removed will be determined by amount of impact to be caused by HVAC renovations.
13-04 13-05 13-05	Floor tile mastic (black)	First Floor: Room 102 & Server Room	-	Negative	Associated with 9" x 9" floor tile previously sampled by PNSY in Room 102 and the Server Room. Material tested as non-asbestos.
Previously Tested by PNSY	Plaster & skim coat	Throughout: Ceiling and walls	-	Reported Negative by PNSY	Grey plaster rough coat and white skim coat. Material tested as non-asbestos.
13-07 13-08 13-09	Floor covering (Maroon)	First Floor: Room 102, 103, 104, 106 and 107	-	Negative <sup>(1)</sup>	Room 102: Under 9" x 9" floor tile. Jute back type flooring material. Not enough mastic material to collect a sample. Rooms 106 and 107: Majority of the floor covering has been removed, remnant material at the radiators. Rooms 103 and 104: Under carpeting. Material tested as non-asbestos.
Previously Tested by PNSY	TSI	First Floor: Server Room	100 LF	Reported Positive by PNSY	Primarily at ceiling. Quantities to be removed will be determined by amount of impact to be caused by HVAC renovations.
Previously Tested by PNSY	9" x 9" floor tile	First Floor: Server Room, Safe (Vault)	See comment	Reported Positive by PNSY	Under raised floor in Server Room. Quantities to be removed will be determined by amount of impact to be caused by HVAC renovations.
13-10 13-11 13-12	12" x 12" beige with grey & white specs floor tile	Second Floor: Western section, rooms 207-210	-	Negative <sup>(1)</sup>	Adhered to plywood, which covers white floor tile (Samples 13-13, 13-14, 13-15). Material tested as non-asbestos.
13-10A 13-11A 13-12A	Mastic for 12" x 12" beige with grey & white specs floor tile	Second Floor: Western section, rooms 207-210	-	Negative	
13-13 13-14 13-15	White floor tile	Second Floor: Western section, rooms 207-210	-	Negative <sup>(1)</sup>	Floor tile and mastic is located under the beige floor tile (13-10, 13-11, 13-12) and a layer of plywood. Floor tile size could not be determined. Material tested as non-asbestos.

Sample #	Material	Location	Approximate Quantity	Result	Comment
13-13A 13-14A 13-15A	Mastic for white floor tile	Second Floor: Western section, rooms 207-210	-	Negative	
<b>Not sampled</b>	<b>Concealed TSI</b>	<b>Throughout at radiators</b>	<b>See comment</b>	<b>Assume positive</b>	<b>On steam lines penetrating floors, ceilings, walls. Selective demolition will be required to determine whether concealed TSI is present or not, quantities will need to be determined if found to be present.</b>
13-16 13-17 13-18	Glue daubs	First Floor: Entryway Second Floor: Storage 210, 203, Corridor	-	Negative	Used to adhere 12" fiberglass ceiling tile to sheetrock ceiling. Material tested as non-asbestos.
<b>Unable to Sample</b>	<b>Glue daubs</b>	<b>Second Floor: Office 201</b>	<b>400 SF</b>	<b>Assume positive</b>	<b>Used to adhere 12" cellulos ceiling tile to plaster ceiling. Unable to sample glue daubs without damaging ceiling tiles.</b>
13-19 13-20 13-21	<b>Black flooring</b>	<b>Second Floor: Office 207 and Office 212</b>	<b>See comment</b>	<b>Positive</b>	<b>Flooring is located under the beige floor tile (13-10, 13-11, 13-12) and a layer of plywood. Quantities to be removed will be determined by amount of impact to be caused by HVAC</b>
13-22 13-23 13-24	<b>Green flooring</b>	<b>Second Floor: Office 207, Office 212 and Office 214</b>	<b>See comment</b>	<b>Trace<sup>(1)</sup></b>	<b>Flooring is located under the black flooring (13-19, 13-20, 13-21). The material tested negative by PLM analysis, but tested trace for asbestos by TEM analysis. Quantities to be removed will be determined by amount of impact to be caused by HVAC</b>
13-25 13-26	Sheetrock	Second Floor: Offices 212, 213, 215, 216	-	Negative	Interior walls. No observable sheetrock tape. Material tested as non-asbestos.
13-25A 13-26A	Joint compound	Second Floor: Offices 212, 213, 215, 216	-	Negative	Interior walls. No observable sheetrock tape. Material tested as non-asbestos.
13-27 13-28	Tar paper	Basement: Bulk head	-	Negative	Applied to underside of concrete in bulkhead area. Material tested as non-asbestos.
<b>Assume Positive</b>	<b>Transite board</b>	<b>Basement: Generator Room, Storage Room</b>	<b>See comment</b>	<b>Assume Positive</b>	<b>Quantities to be removed will be determined by amount of impact to be caused by HVAC renovations.</b>
13-29 13-30	Mastic	Second Floor: Offices	-	Negative	Black mastic on 9" floor tile and green jute back type flooring (Sample 13-22, 13-23, 13-24). Material tested as non-asbestos.
13-31 13-32 13-33	12" x 12" white with grey & white specs floor tile	Second Floor: Office 214 First Floor: Telephone Room	-	Negative <sup>(1)</sup>	Second floor: Layer on top of green flooring (Sample 13-22, 13-23, 13-24). First Floor: Under AHU. Material tested as non-asbestos.
13-31A 13-32A 13-33A	Mastic	Second Floor: Office 214	-	Negative	Associated with 12" x 12" white with grey & white specs floor tile (Sample 13-31, 13-32, 13-33). Material tested as non-asbestos.

Sample #	Material	Location	Approximate Quantity	Result	Comment
Unable to Sample	Glue daubs	Second Floor: Office 216	150 SF	Assume positive	Used to adhere 12" cellulose ceiling tile to sheetrock ceiling. Unable to sample glue daubs without damaging ceiling tiles.
Not sampled	12" x 12" Floor tile and mastic	Second Floor: Mezzanine Kitchen	200 SF	Assume positive	Unable to sample floor tile and mastic without damaging floor tiles.
13-34 13-35 13-36	2' x 4' Suspended ceiling tile	Second Floor: Offices 215 & 216 First Floor: Offices 106 & 107	-	Negative	Associated with suspended ceiling. Material tested as non-asbestos.
13-37 13-38 13-39	Green sheet flooring	First Floor: Telephone Room	-	Negative <sup>(1)</sup>	On top of asbestos 9" x 9" floor tile (as reported by PNSY). Sheeting flooring should be removed as ACM if the sheet flooring removal impacts the 9" floor tile underneath. Material tested as non-asbestos.
13-37A 13-38A 13-39A	Mastic	First Floor: Telephone Room	-	Negative	Associated with green sheet flooring. Material tested as non-asbestos.
13-40 13-41 13-42	Carpet adhesive	First Floor: Offices 103, 104, 106, 107	-	Negative	Material tested as non-asbestos.
Not sampled	Vinyl wall panel adhesive	First Floor: Office 107 bathroom	300 SF	Assume positive	Unable to sample the adhesive without damaging the wall paneling. Material not likely to be impacted as part of the HVAC renovations.
Not sampled	12" x 12" tan floor tile and mastic	First Floor: Office 107 bathroom	60 SF	Assume positive	Material not likely to be impacted as part of the HVAC renovations. Unable to sample floor tile and mastic without damaging floor tiles.
13-43 13-44 13-45	12" x 12" Grey with white streaks floor tile	First Floor: Entryway	-	Negative <sup>(1)</sup>	Material tested as non-asbestos.
13-43A 13-44A 13-45A	Mastic	First Floor: Entryway	-	Negative	Associated with 12" x 12" white with grey & white specs floor tile (Sample 13-43, 13-44, 13-45). Material tested as non-asbestos.
13-46 13-47	Glazing putty	Stairwell windows	-	Negative	Newer windows. Total of 58 newer and older exterior windows. Double hung wood frame, 3' x 7' and 3' x 5' in size. Material tested as non-asbestos.
13-48 13-49 13-50	Window glaze	Exterior: Rear of building	-	Negative	Newer windows. Total of 58 newer and older exterior windows. Double hung wood frame, 3' x 7' and 3' x 5' in size. Material tested as non-asbestos.
13-51 13-52 13-53 13-54	Window glaze	Exterior	-	Negative	Older windows. Total of 58 newer and older exterior windows. Double hung wood frame, 3' x 7' and 3' x 5' in size. Material tested as non-asbestos.

**LEGEND**

ND = NONE DETECTED  
NA = NOT APPLICABLE

TEM = TRANSMISSION ELECTRON MICROSCOPY  
PLM = POLARIZED LIGHT MICROSCOPY

Sample #	Material	Location	Approximate Quantity	Result	Comment
	TSI - THERMAL SYSTEMS INSULATION PNSY = PORTSMOUTH NAVAL			TRACE = LESS THAN 1% ASBESTOS (1) TEM ANALYSIS PERFORMED IF PLM ANALYSIS SHOWED	NON DETECT FOR ASBESTOS RESULTS

**TABLE 2**

Miscellaneous Hazardous Materials

Building 13

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Mercury thermostat/switch	<b>Throughout:</b> Various locations	10 count	All mercury thermostats/switches are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Interior HVAC:</b>	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury			

**TABLE 3**  
 PCB Bulk Sampling Results Table  
 Building 13  
 Portsmouth Naval Shipyard

Sample ID	PCB-01	PCB-02
Material	Window Caulking	Window Glaze
Location	Exterior Windows	Exterior Windows
Approximate Quantity		
<b>Polychlorinated Biphenyls (PCBs)</b>		
Aroclor 1016	ND	ND
Aroclor 1221	ND	ND
Aroclor 1232	ND	ND
Aroclor 1242	ND	ND
Aroclor 1248	ND	ND
Aroclor 1254	ND	ND
Aroclor 1260	ND	ND
Aroclor 1262	ND	ND
Aroclor 1268	ND	ND
Total PCBs	ND	ND

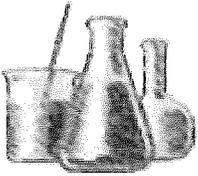
**Notes:**

**LEAD BASED PAINT INVENTORY**  
**River Road Pump Station**  
**River Road**  
**Jaffrey, New Hampshire**

**TABLE 4**  
Lead Based Paint Sampling Results Table  
Building 13  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-01	White/Multi-colored Paint	First Floor: Room 102, adjacent Bathrooms		0.18	The white/multi-colored paint tested less than the reporting limits. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-02	Tan Paint	Second Floor: Windows		0.27	The tan paint tested less than the reporting limits. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-03	Off White Paint	Basement: Walls and ceiling		0.18	The off white paint tested less than the reporting limits. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-04	White Paint	Office 215: Windows		25	The white paint tested greater than the reporting limits.
LBP-05	White Paint	Exterior: Window and door frames		40	The white paint tested greater than the reporting limits.

**LEGEND**  
NA = NOT APPLICABLE  
SF = SQUARE FEET  
LF = LINEAR FEET  
<RL = LESS THAN REPORTING LIMIT  
FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT  
SHADED AREAS = ANY AREA THAT TESTED AT OR ABOVE THE 0.5% LEAD BY WEIGHT LIMIT



# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

March 31, 2015

Dear Jason Hayward,

The enclosed analytical results have been obtained by using the EPA/600/R-93/116 method. The "Visual Estimate" quantitative method is generally used for determining the percentage of asbestos and other components of the sample. "The Point Counting" method may also be used upon client request or at the analyst discretion. The Point Count method is usually recommended when the sample contains less than 10% asbestos by Visual estimate. Asbestos content less than 1% is recorded on the report as TR (trace).

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Stefanie Bishop, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2  
LAB BATCH ID: B 95554 CLIENT PROJECT ID: 10-1066-4-01  
Client Ref: PNSY - Building 13  
AIHA ID# 102754; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; NVLAP  
Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-01	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Glue Daubs (Brown)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-02	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Glue Daubs (Brown)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-03	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Glue Daubs (Brown)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-04	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-05	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-06	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-07	Red	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Flooring (Maroon)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-08	Red	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Flooring (Maroon)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-09	Red	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Flooring (Maroon)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-10	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (Gray)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-11	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (Gray)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-12	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (Gray)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-10A	Yellow	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-11A	Yellow	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-12A	Yellow	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-13	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (White)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-14	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (White)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-15	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (White)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %							
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON	
13-13A	Yellow	0	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic															
Location: N/A															
Comments:		Is asbestos present? No. Analyzed: Yes													

Sample ID	Color	Asbestos %						Non-Asbestos %							
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON	
13-14A	Yellow	0	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic															
Location: N/A															
Comments:		Is asbestos present? No. Analyzed: Yes													

Sample ID	Color	Asbestos %						Non-Asbestos %							
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON	
13-15A	Yellow	0	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic															
Location: N/A															
Comments:		Is asbestos present? No. Analyzed: Yes													

Sample ID	Color	Asbestos %						Non-Asbestos %							
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON	
13-16	Brown	0	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Glue Daubs (Brown)															
Location: N/A															
Comments:		Is asbestos present? No. Analyzed: Yes													

Sample ID	Color	Asbestos %						Non-Asbestos %							
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON	
13-17	Brown	0	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Glue Daubs (Brown)															
Location: N/A															
Comments:		Is asbestos present? No. Analyzed: Yes													

Sample ID	Color	Asbestos %						Non-Asbestos %							
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON	
13-18	Brown	0	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Glue Daubs (Brown)															
Location: N/A															
Comments:		Is asbestos present? No. Analyzed: Yes													

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-19	Black	3	0	0	0	0	0	0	0	0	0	0	0	97
Description: Flooring (Black)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? Yes. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-20		0	0	0	0	0	0	0	0	0	0	0	0	0
Description: Flooring (Black)														
Location: N/A														
Comments: <span style="float: right;">Analyzed: No</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-21		0	0	0	0	0	0	0	0	0	0	0	0	0
Description: Flooring (Black)														
Location: N/A														
Comments: <span style="float: right;">Analyzed: No</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-22	Green	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Flooring (Green)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-23	Green	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Flooring (Green)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-24	Green	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Flooring (Green)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-25	Lt. Gray	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-26	Lt. Gray	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Sheetrock														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-25A	White	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Sheetrock Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-26A	White	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Sheetrock Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-27	Dk. Brown	0	0	0	0	0	0	0	0	90	0	0	0	10
Description: Tar Paper														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-28	Dk. Brown	0	0	0	0	0	0	0	0	90	0	0	0	10
Description: Tar Paper														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-29	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-30	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-31	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (White)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-32	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (White)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-33	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (White)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-31A	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
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 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-32A	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-33A	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-34	Tan	0	0	0	0	0	0	0	10	80	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-35	Tan	0	0	0	0	0	0	0	10	80	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-36	Tan	0	0	0	0	0	0	0	10	80	0	0	0	10
Description: Ceiling Panel Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-37	Green	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Flooring (Green) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-38	Green	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Flooring (Green)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-39	Green	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Flooring (Green)														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-37A	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-38A	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-39A	Black	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-40	Yellow	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Adhesive														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-41	Yellow	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Adhesive Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-42	Yellow	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Adhesive Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-43	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (Gray) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-44	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (Gray) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-45	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Floor Tile (Gray) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-43A	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-44A	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-45A	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100
Description: Mastic Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-46	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Stairwell) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-47	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Stairwell) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-48	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Newer Window ) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-49	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Newer Window ) Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-4-01  
 Client Reference: PNSY - Building 13  
 Method: EPA/600/R-93/116

**Batch: B95554**  
 Date Sampled: 3/18/2015  
 Date Received: 3/20/2015  
 Date Analyzed: 3/23/2015  
 Date of Report: 3/31/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-50	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Newer Window)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-51	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Older Windows)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-52	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Older Windows)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-53	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Older Windows)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

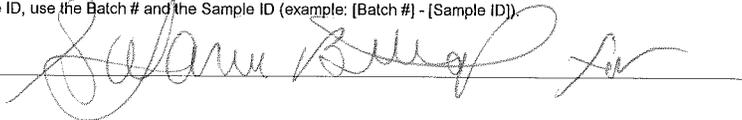
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
13-54	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Glazing (Older Windows)														
Location: N/A														
Comments:		Is asbestos present? No. Analyzed: Yes												

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Robert West





Batch: 95554

Sample ID	Description	Analyst	Stereo Scope					Optical Properties							RI		Asbestos Percent						Non-Asbestos Percent				
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
13-09	Flooring (Maroon)	KSJ	0	R	Z	R	Z														10					90	
13-10	Floor Tile (Gray)		0	GY	Z	H	Z																			100	
13-11	Floor Tile (Gray)		0	GY	Z	H	Z																			100	
13-12	Floor Tile (Gray)		0	GY	Z	H	Z																			100	
13-10A	Mastic		0	Y	Z	R	Z																			100	
13-11A	Mastic		0	Y	Z	R	Z																			100	
13-12A	Mastic		0	Y	Z	R	Z																			100	
13-13	Floor Tile (White)		0	BF	Z	H	Z																			100	
13-14	Floor Tile (White)		0	BF	Z	H	Z																			100	

Comments:



Batch: B95554

Sample ID	Description	Analyst	Stereoscope					Optical Properties							Asbestos Percent						Non-Asbestos Percent							
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI Parallel	RI Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
13-21	Flooring (Black)	KSR																										
13-22	Flooring (Green)		DNB																									
13-23	Flooring (Green)			GN	N	A	N																					
13-24	Flooring (Green)			GN	N	A	N																					
13-25	Sheetrock			GN	N	P	Y																					
13-26	Sheetrock			GN	N	P	Y																					
13-25A	Sheetrock / Joint Compound			GN	N	P	Y																					
13-26A	Sheetrock / Joint Compound			GN	N	P	Y																					
13-27	Tar Paper			GN	N	P	Y																					

Comments:

Batch: **B 95554**

Sample ID	Description	Analyst	Stereoscope					Optical Properties							Asbestos Percent					Non-Asbestos Percent								
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
13-28	Tar Paper	RS	0	BR	Z	H	Z																					
13-29	Mastic		0	BR	Z	R	Z																					
13-30	Mastic		0	BR	Z	R	Z																					
13-31	Floor Tile (White)		0	BR	Z	H	Z																					
13-32	Floor Tile (White)		0	BR	Z	H	Z																					
13-33	Floor Tile (White)		0	BR	Z	H	Z																					
13-31A	Mastic		0	BR	Z	R	Z																					
13-32A	Mastic		0	BR	Z	R	Z																					
13-33A	Mastic		0	BR	Z	R	Z																					

Comments:



Batch: 195554

Sample ID	Description	Analyst	Stereo Scope					Optical Properties							Asbestos Percent							Non-Asbestos Percent						
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
13-40	Adhesive	WJ	0	BRK BRK BRK	Z	FR	Z																					100
13-41	Adhesive		0	BRK BRK BRK	Z	FR	Z																					100
13-42	Adhesive		0	BRK BRK BRK	Z	FR	Z																					100
13-43	Floor Tile (Gray)		0	GR	Z	F	Z																					100
13-44	Floor Tile (Gray)		0	GR	Z	F	Z																					100
13-45	Floor Tile (Gray)		0	GR	Z	F	Z																					100
13-43A	Mastic		0	BR	Z	S	Z																					100
13-44A	Mastic		0	BR	Z	S	Z																					100
13-45A	Mastic		0	BR	Z	S	Z																					100

Comments:

Batch: **3** 95554

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent						
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
13-46	Glazing (Stairwell)	ES	0	G7	2	R	2																				100
13-47	Glazing (Stairwell)		0	G7	2	R	2																				100
13-48	Glazing (Newer Window)		0	M7	2	R	2																				100
13-49	Glazing (Newer Window)		0	M7	2	R	2																				100
13-50	Glazing (Newer Window)		0	M7	2	R	2																				100
13-51	Glazing (Older Windows)		0	M7	2	R	2																				100
13-52	Glazing (Older Windows)		0	M7	2	R	2																				100
13-53	Glazing (Older Windows)		0	M7	2	R	2																				100
13-54	Glazing (Older Windows)		0	M7	2	R	2																				100

Analyzed By / Date: *RHC West* QC By / Date: *Hyde* Fax, Email, Verbal Results By / Date: *H.W. KA 3 27* # of Samples: 71

Comments:

*3/23/15*

*3 24 15*

Proj. Name	PNSY - Building 13	Proj. #	10-1066-4-01
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PASI Batch #	B 95554
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Client	Name	Tighe & Bond	PO #	
	Address	446 Main Street, Worcester, MA		

Contact	Name	Jason Hayward
	Phone	508-471-9614
	Fax	
	Email	jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

TAT (X)	
Rush	
Same Day	
Next Day	
2 Days	
3 Days	
4-5 Days	X

Results		
Tel	Fax	Email
		X
Final Report		
Email	Hard Copy	
X		

Analysis	
PLM Bulk	
Bulk (600 / R-93 / 116)	X
Wipes (EPA 600)	
Point Count (EPA 600)	
Soil (EPA)	
NOB (NY-ELAP)	
Special Instructions	
Stop on First Positive*	Y
TEM NOB Negative Bulks	(1)
Point Count <10% Asb.	

Relinquished By *Jason Hayward*  
 Received By *Jason Hayward*

Date / Time 3/18/15 3:00  
 Date / Time 3/18/15 9:50am

\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Description	Location
1	13-01	3/18/2015	Glue duabs (brown)	
2	13-02	3/18/2015	Glue duabs (brown)	
3	13-03	3/18/2015	Glue duabs (brown)	
4	13-04	3/18/2015	Mastic (black)	
5	13-05	3/18/2015	Mastic (black)	
6	13-06	3/18/2015	Mastic (black)	
7	13-07	3/18/2015	Flooring (Maroon)	
8	13-08	3/18/2015	Flooring (Maroon)	
9	13-09	3/18/2015	Flooring (Maroon)	(1) Analyze sample 13-09 by TEM only if samples 13-07 & 13-08 test negative by PLM
10	13-10	3/18/2015	Floor tile (grey)	
11	13-11	3/18/2015	Floor tile (grey)	
12	13-12	3/18/2015	Floor tile (grey)	(1) Analyze sample 13-12 by TEM only if samples 13-10 & 13-11 test negative by PLM
13	13-10A	3/18/2015	Mastic	
14	13-11A	3/18/2015	Mastic	
15	13-12A	3/18/2015	Mastic	



*B95554*

Proj. Name	PNSY - Building 13	Proj. #	10-1066-4-01
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40	13-32	3/18/2015	Floor Tile (white)	
41	13-33	3/18/2015	Floor Tile (white)	(1) Analyze sample 13-33 by TEM only if samples 13-31 & 13-32 test negative by PLM
42	13-31A	3/18/2015	Mastic	
43	13-32A	3/18/2015	Mastic	
44	13-33A	3/18/2015	Mastic	
45	13-34	3/18/2015	Ceiling Panel	
46	13-35	3/18/2015	Ceiling Panel	
47	13-36	3/18/2015	Ceiling Panel	
48	13-37	3/18/2015	Flooring (green)	
49	13-38	3/18/2015	Flooring (green)	
50	13-39	3/18/2015	Flooring (green)	(1) Analyze sample 13-39 by TEM only if samples 13-37 & 13-38 test negative by PLM
51	13-37A	3/18/2015	Mastic	
52	13-38A	3/18/2015	Mastic	
53	13-39A	3/18/2015	Mastic	
54	13-40	3/18/2015	Adhesive	
55	13-41	3/18/2015	Adhesive	
56	13-42	3/18/2015	Adhesive	
57	13-43	3/18/2015	Floor tile (grey)	
58	13-44	3/18/2015	Floor tile (grey)	
59	13-45	3/18/2015	Floor tile (grey)	(1) Analyze sample 13-45 by TEM only if samples 13-43 & 13-44 test negative by PLM
60	13-43A	3/18/2015	Mastic	
61	13-44A	3/18/2015	Mastic	
62	13-45A	3/18/2015	Mastic	
63	13-46	3/18/2015	Glazing (stairwell)	

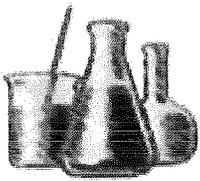
B95554

Proj. Name PNSY - Building 13

Proj. # 10-1066-4-01

64	13-47	3/18/2015	Glazing (stairwell)	
65	13-48	3/18/2015	Glazing (newer window)	
66	13-49	3/18/2015	Glazing (newer window)	
67	13-50	3/18/2015	Glazing (newer window)	
68	13-51	3/18/2015	Glazing (older windows)	
69	13-52	3/18/2015	Glazing (older windows)	
70	13-53	3/18/2015	Glazing (older windows)	
71	13-54	3/18/2015	Glazing (older windows)	

**NOTE TO LAB: Only run TEM analysis on samples as noted**



# ProScience Analytical Services, Inc

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Jason Hayward  
Tighe & Bond, Worcester  
446 Main St.  
Worcester, MA 01608

March 27, 2015

Dear Jason Hayward,

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 or 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 15094 CLIENT PROJECT ID: N/A  
Client Ref: PNSY - Building 13  
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 #: N/A  
 Client Reference: PNSY - Building 13  
 PO #: N/A  
 Client #: 259  
 Client Name: Tighe & Bond, Worcester

Batch: NT 15094  
 Method: NOB  
 Date Received: 3/20/2015  
 Date Analyzed: 3/27/2015  
 Date of Report: 3/27/2015

LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types						% Other Non-ashb.	% Organic	% Carb.	Total % Asbestos	Analyzed / Charged	Preped / Charged	
					CHR	AMO	ACT	CRO	ANT	TRE							
NT114835	13-09	Flooring (Maroon)		.2441	.00	.00	.00	.00	.00	.00	.00	5.58	77.71	16.71	ND	Yes	No
NT114836	13-12	Floor Tile (Grey)		.0883	.00	.00	.00	.00	.00	.00	.00	4.42	14.38	81.20	ND	Yes	No
NT114837	13-15	Floor Tile (White)		.3146	.00	.00	.00	.00	.00	.00	.00	32.62	16.59	50.79	ND	Yes	No
NT114838	13-24	Flooring (Green)		.1706	.01	.00	.00	.00	.00	.00	.00	2.93	79.84	17.23	TR	Yes	No
NT114839	13-33	Floor Tile (White)		.8017	.00	.00	.00	.00	.00	.00	.00	4.42	15.23	80.35	ND	Yes	No
NT114840	13-39	Flooring (Green)		.1797	.00	.00	.00	.00	.00	.00	.00	14.58	38.45	46.97	ND	Yes	No
NT114841	13-45	Floor Tile (Grey)		.4048	.00	.00	.00	.00	.00	.00	.00	2.09	13.74	84.17	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

Proj. Name: PNSY - Building 13  
 Proj. #: 10-1066-4-01

PASI Batch #  
 B 95554

Client: Tigue & Bond  
 Address: 446 Main Street, Worcester, MA  
 PO #

Contact: Jason Hayward  
 Phone: 508-471-9614  
 Fax: 508-471-9614  
 Email: jhayward@tiguebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

TAT (X)
Rush
Same Day
Next Day
2 Days
3 Days
4-5 Days

Relinquished By: *Jason Hayward*  
 Received By: *[Signature]*  
 Date / Time: 3/18/15 3:00  
 Date / Time: 3/20/15 9:55 am

Results
Tel
Fax
Email
X

Final Report
Email
Hard Copy
X

Analysis

PLM Bulk
Bulk (600 / R-93 / 116)
Wipes (EPA 600)
Point Count (EPA 600)
Soil (EPA)
NOB (NY-ELAP)
Special Instructions
Stop on First Positive*
TEM NOB Negative Bulks
Point Count <10% Ash.

Line #	Sample ID	Date Collected	Description	Location
1	13-01	3/18/2015	Glue duabs (brown)	
2	13-02	3/18/2015	Glue duabs (brown)	
3	13-03	3/18/2015	Glue duabs (brown)	
4	13-04	3/18/2015	Mastic (black)	
5	13-05	3/18/2015	Mastic (black)	
6	13-06	3/18/2015	Mastic (black)	
7	13-07	3/18/2015	Flooring (Maroon)	
8	13-08	3/18/2015	Flooring (Maroon)	
9	13-09	3/18/2015	Flooring (Maroon)	(1) Analyze sample 13-09 by TEM only if samples 13-07 & 13-08 test negative by PLM
10	13-10	3/18/2015	Floor tile (grey)	
11	13-11	3/18/2015	Floor tile (grey)	
12	13-12	3/18/2015	Floor tile (grey)	(1) Analyze sample 13-12 by TEM only if samples 13-10 & 13-11 test negative by PLM
13	13-10A	3/18/2015	Mastic	
14	13-11A	3/18/2015	Mastic	
15	13-12A	3/18/2015	Mastic	

\*If no selection is made for SFP lab will analyze all samples.

Proj. Name	PNSY - Building 13	Proj. #	10-1066-4-01
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16	13-13	3/18/2015	Floor tile (white)	
17	13-14	3/18/2015	Floor tile (white)	
18	13-15	3/18/2015	Floor tile (white)	(1) Analyze sample 13-15 by TEM only if samples 13-13 & 13-14 test negative by PLM
19	13-13A	3/18/2015	Mastic	
20	13-14A	3/18/2015	Mastic	
21	13-15A	3/18/2015	Mastic	
22	13-16	3/18/2015	Glue duabs (brown)	
23	13-17	3/18/2015	Glue duabs (brown)	
24	13-18	3/18/2015	Glue duabs (brown)	
25	13-19	3/18/2015	Flooring (black)	
26	13-20	3/18/2015	Flooring (black)	
27	13-21	3/18/2015	Flooring (black)	(1) Analyze sample 13-21 by TEM only if samples 13-19 & 13-20 test negative by PLM
28	13-22	3/18/2015	Flooring (green)	
29	13-23	3/18/2015	Flooring (green)	
30	13-24	3/18/2015	Flooring (green)	(1) Analyze sample 13-24 by TEM only if samples 13-22 & 13-23 test negative by PLM
31	13-25	3/18/2015	Sheetrock	
32	13-26	3/18/2015	Sheetrock	
33	13-25A	3/18/2015	Sheetrock Joint Compound	
34	13-26A	3/18/2015	Sheetrock Joint Compound	
35	13-27	3/18/2015	Tar Paper	
36	13-28	3/18/2015	Tar Paper	
37	13-29	3/18/2015	Mastic	
38	13-30	3/18/2015	Mastic	
39	13-31	3/18/2015	Floor Tile (white)	

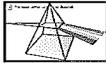
Proj. Name	PNSY - Building 13	Proj. #	10-1066-4-01
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40	13-32	3/18/2015	Floor Tile (white)	
41	13-33	3/18/2015	Floor Tile (white)	(1) Analyze sample 13-33 by TEM only if samples 13-31 & 13-32 test negative by PLM
42	13-31A	3/18/2015	Mastic	
43	13-32A	3/18/2015	Mastic	
44	13-33A	3/18/2015	Mastic	
45	13-34	3/18/2015	Ceiling Panel	
46	13-35	3/18/2015	Ceiling Panel	
47	13-36	3/18/2015	Ceiling Panel	
48	13-37	3/18/2015	Flooring (green)	
49	13-38	3/18/2015	Flooring (green)	
50	13-39	3/18/2015	Flooring (green)	(1) Analyze sample 13-39 by TEM only if samples 13-37 & 13-38 test negative by PLM
51	13-37A	3/18/2015	Mastic	
52	13-38A	3/18/2015	Mastic	
53	13-39A	3/18/2015	Mastic	
54	13-40	3/18/2015	Adhesive	
55	13-41	3/18/2015	Adhesive	
56	13-42	3/18/2015	Adhesive	
57	13-43	3/18/2015	Floor tile (grey)	
58	13-44	3/18/2015	Floor tile (grey)	
59	13-45	3/18/2015	Floor tile (grey)	(1) Analyze sample 13-45 by TEM only if samples 13-43 & 13-44 test negative by PLM
60	13-43A	3/18/2015	Mastic	
61	13-44A	3/18/2015	Mastic	
62	13-45A	3/18/2015	Mastic	
63	13-46	3/18/2015	Glazing (stairwell)	

Proj. Name	PNSY - Building 13		Proj. #	10-1066-4-01	
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64	13-47	3/18/2015	Glazing (stairwell)	
65	13-48	3/18/2015	Glazing (newer window)	
66	13-49	3/18/2015	Glazing (newer window)	
67	13-50	3/18/2015	Glazing (newer window)	
68	13-51	3/18/2015	Glazing (older windows)	
69	13-52	3/18/2015	Glazing (older windows)	
70	13-53	3/18/2015	Glazing (older windows)	
71	13-54	3/18/2015	Glazing (older windows)	

**NOTE TO LAB: Only run TEM analysis on samples as noted**



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

Telephone: 781-935-3212  
 Facsimile: 781-932-4857  
 Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283565  
**Date received:** 4/3/2015  
**Date analyzed:** 4/6/2015  
**Date of report:** 4/6/2015

**Project #** 10.1066.4  
**P.O.#** N/A  
**Project Site:** PNSY - Building 13

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 518159	LBP-01	3/18/15	White / Green Paint	0.18	0.020	
C 518160	LBP-02	3/18/15	Tan Paint	0.27	0.027	
C 518161	LBP-03	3/18/15	Off White Paint (Basement)	0.18	0.032	
C 518162	LBP-04	3/18/15	White Paint (Office 215)	25	0.013	
C 518163	LBP-05	3/18/15	White Paint (Exterior)	40	0.016	

*Hay*  
 \_\_\_\_\_ for  
**Simona Peavey, Tech. Manager Chemistry**  
**Aimee Cormier, Lab Director**

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  
 www.proscience.net  
 general@proscience.net

Turn Around Time Requested  
 Rush / < 6 Hours  Same Day  Next Day  2 Day  3 Day  5 Days

Client: Tighe & Bond  
 Address: 446 Main Street  
 Town: Worcester State/Zip: MA 01608  
 Project Site Line 1: PNSP - Building 13 Project Number: 10.1066.4  
 Line 2: \_\_\_\_\_ PO: \_\_\_\_\_  
 Contact: Jason Hayward Phone: 508-471-9614 FAX: \_\_\_\_\_  
 Air/Pager: \_\_\_\_\_

NELAC analysis  
 Element: Pb gravimetric  
 Cd Cr As  
 Se Ag Ba Fe  
 For Laboratory Use  
 Other (please specify under Comments): \_\_\_\_\_  
 BATCH NUMBER: C 283568  
 QC

TYPE OF ANALYSIS (circle)

DUST WIPES	PAINT (0.1 g)	SOIL (1 g)
AIR	TSP	TCLP (100g)
(min)	PM10	Other

Please use a separate form for each matrix.

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	length (inch)	width (inch)		Area (sq in)	Weight (grams)	AA/ICP Reading
3/18/15	L08-01	white/green paint										518/59
3/18/15	L08-02	Tan paint										60
3/18/15	L08-03	off white paint (basement)										61
3/18/15	L08-04	white paint (office ais)										62
3/18/15	L08-05	white paint (exterior)										63

Relinquished By: \_\_\_\_\_ Date: 4/2/15  
 Received By: Jason Hayward Date: 4/3/15  
 Comments: \_\_\_\_\_  
 Time: 10:00  
 Time: 9:30am



*CERTIFICATE OF ANALYSIS*

Jason Hayward  
Tighe & Bond  
446 Main Street  
Worcester, MA 01608

**RE: PNSY (A-1066.6)**  
**ESS Laboratory Work Order Number: 1503396**

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

Laurel Stoddard  
Laboratory Director

**REVIEWED**

**By ESS Laboratory at 3:40 pm, Mar 31, 2015**

**Analytical Summary**

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

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY

ESS Laboratory Work Order: 1503396

**SAMPLE RECEIPT**

The following samples were received on March 24, 2015 for the analyses specified on the enclosed Chain of Custody Record.

<b>Lab Number</b>	<b>Sample Name</b>	<b>Matrix</b>	<b>Analysis</b>
1503396-01	Window Caulking	Solid	8082
1503396-02	Window Glaze	Solid	8082



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY

ESS Laboratory Work Order: 1503396

**PROJECT NARRATIVE**

**8082 Polychlorinated Biphenyls (PCB)**

1503396-01 [Elevated Method Reporting Limits due to sample matrix \(EL\).](#)

1503396-01 [Surrogate recoverv\(ies\) diluted below the MRL \(SD\).](#)

Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY

ESS Laboratory Work Order: 1503396

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

**Prep Methods**

- 3005A - Aqueous ICP and Graphite Furnace Digestion
- 3020A - Aqueous ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY  
Client Sample ID: Window Caulking  
Date Sampled: 03/18/15 15:00  
Percent Solids: N/A  
Initial Volume: 5.28  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1503396  
ESS Laboratory Sample ID: 1503396-01  
Sample Matrix: Solid  
Units: mg/kg wet  
Analyst: TAJ  
Prepared: 3/25/15 17:55

**8082 Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1221	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1232	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1242	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1248	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1254	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1260	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1262	ND (37.9)		8082		200	03/30/15 21:51		CC53110
Aroclor 1268	ND (37.9)		8082		200	03/30/15 21:51		CC53110

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY  
Client Sample ID: Window Glaze  
Date Sampled: 03/18/15 15:30  
Percent Solids: N/A  
Initial Volume: 5.04  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1503396  
ESS Laboratory Sample ID: 1503396-02  
Sample Matrix: Solid  
Units: mg/kg wet  
Analyst: TJ  
Prepared: 3/25/15 17:55

**8082 Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1221	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1232	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1242	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1248	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1254	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1260	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1262	ND (0.198)		8082		1	03/26/15 17:16		CC52403
Aroclor 1268	ND (0.198)		8082		1	03/26/15 17:16		CC52403

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>106 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>88 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>116 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>108 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond  
Client Project ID: PNSY

ESS Laboratory Work Order: 1503396

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

**Batch CC52403 - 3540C**

**Blank**

Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0212		mg/kg wet	0.02500		85	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0205		mg/kg wet	0.02500		82	30-150			
Surrogate: Tetrachloro-m-xylene	0.0233		mg/kg wet	0.02500		93	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0217		mg/kg wet	0.02500		87	30-150			

**LCS**

Aroclor 1016	0.504	0.0500	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.475	0.0500	mg/kg wet	0.5000		95	40-140			

Surrogate: Decachlorobiphenyl	0.0243		mg/kg wet	0.02500		97	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0250		mg/kg wet	0.02500		100	30-150			
Surrogate: Tetrachloro-m-xylene	0.0258		mg/kg wet	0.02500		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0247		mg/kg wet	0.02500		99	30-150			

**LCS Dup**

Aroclor 1016	0.542	0.0500	mg/kg wet	0.5000		108	40-140	7	50	
Aroclor 1260	0.521	0.0500	mg/kg wet	0.5000		104	40-140	9	50	

Surrogate: Decachlorobiphenyl	0.0261		mg/kg wet	0.02500		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0265		mg/kg wet	0.02500		106	30-150			
Surrogate: Tetrachloro-m-xylene	0.0264		mg/kg wet	0.02500		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0257		mg/kg wet	0.02500		103	30-150			

**Batch CC53110 - 3540C**

**Blank**

Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0190		mg/kg wet	0.02500		76	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0207		mg/kg wet	0.02500		83	30-150			



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY

ESS Laboratory Work Order: 1503396

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

8082 Polychlorinated Biphenyls (PCB)

**Batch CC53110 - 3540C**

<i>Surrogate: Tetrachloro-m-xylene</i>	0.0145		mg/kg wet	0.02500		58	30-150			
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	0.0136		mg/kg wet	0.02500		55	30-150			
<b>LCS</b>										
Aroclor 1016	0.359	0.0500	mg/kg wet	0.5000		72	40-140			
Aroclor 1260	0.386	0.0500	mg/kg wet	0.5000		77	40-140			
<i>Surrogate: Decachlorobiphenyl</i>	0.0202		mg/kg wet	0.02500		81	30-150			
<i>Surrogate: Decachlorobiphenyl [2C]</i>	0.0220		mg/kg wet	0.02500		88	30-150			
<i>Surrogate: Tetrachloro-m-xylene</i>	0.0145		mg/kg wet	0.02500		58	30-150			
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	0.0151		mg/kg wet	0.02500		60	30-150			
<b>LCS Dup</b>										
Aroclor 1016	0.436	0.0500	mg/kg wet	0.5000		87	40-140	19	50	
Aroclor 1260	0.462	0.0500	mg/kg wet	0.5000		92	40-140	18	50	
<i>Surrogate: Decachlorobiphenyl</i>	0.0237		mg/kg wet	0.02500		95	30-150			
<i>Surrogate: Decachlorobiphenyl [2C]</i>	0.0256		mg/kg wet	0.02500		102	30-150			
<i>Surrogate: Tetrachloro-m-xylene</i>	0.0190		mg/kg wet	0.02500		76	30-150			
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	0.0186		mg/kg wet	0.02500		74	30-150			



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY

ESS Laboratory Work Order: 1503396

**Notes and Definitions**

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



*CERTIFICATE OF ANALYSIS*

Client Name: Tighe & Bond  
Client Project ID: PNSY

ESS Laboratory Work Order: 1503396

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01  
<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_Opra/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_Opra/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**CHEMISTRY**

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.epsc.gov/cgi-bin/labapplist.aspx>

**Sample and Cooler Receipt Checklist**

Client: Tighe & Bond  
 Client Project ID: \_\_\_\_\_  
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030396  
 Date Project Due: 3/31/15  
 Days For Project: 5 Day

**Items to be checked upon receipt:**

- |   |                               |   |   |
|---|-------------------------------|---|---|
| 1. Air Bill Manifest Present?                 | <input type="checkbox"/> * No | 10. Are the samples properly preserved?   | <input type="checkbox"/> Yes  |
| Air No.:                                      |                               | 11. Proper sample containers used?        | <input type="checkbox"/> Yes  |
| 2. Were Custody Seals Present?                | <input type="checkbox"/> No   | 12. Any air bubbles in the VOA vials?     | <input type="checkbox"/> N/A  |
| 3. Were Custody Seals Intact?                 | <input type="checkbox"/> N/A  | 13. Holding times exceeded?               | <input type="checkbox"/> No   |
| 4. Is Radiation count < 100 CPM?              | <input type="checkbox"/> Yes  | 14. Sufficient sample volumes?            | <input type="checkbox"/> Yes  |
| 5. Is a cooler present?                       | <input type="checkbox"/> Yes  | 15. Any Subcontracting needed?            | <input type="checkbox"/> No   |
| <input type="text" value="Cooler Temp: 4.8"/> |                               | 16. Are ESS labels on correct containers? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="text" value="Iced With: Ice"/>   |                               | 17. Were samples received intact?         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Was COC included with samples?             | <input type="checkbox"/> Yes  | ESS Sample IDs: _____                     |   |
| 7. Was COC signed and dated by client?        | <input type="checkbox"/> Yes  | Sub Lab: _____                            |   |
| 8. Does the COC match the sample              | <input type="checkbox"/> Yes  | Analysis: _____                           |   |
| 9. Is COC complete and correct?               | <input type="checkbox"/> Yes  | TAT: _____                                |   |

18. Was there need to call project manager to discuss status? If yes, please explain.

\_\_\_\_\_

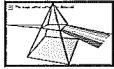
\_\_\_\_\_

Who was called?: \_\_\_\_\_ By whom? \_\_\_\_\_

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP

Completed By: [Signature] Date/Time: 3/24/15 1557  
 Reviewed By: [Signature] Date/Time: 3/24/15 16:35





**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:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
 Worcester, MA 01608

**Batch #:** C 283568  
**Date received:** 4/3/2015  
**Date analyzed:** 4/8/2015  
**Date of report:** 4/8/2015

**Project #** 10-1066-4  
**P.O.#** N/A  
**Project Site:** PNSY - Building 13

**EPA Lab ID:** MA1042

**TCLP Lead Analysis Using SOP based on Methods SW846-1311/3051/7420**  
 Results in mg/L

Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 518171	TCLP-01	3/18/15	Building 13	<RL	0.40	


---

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

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 three significant figures.  
 Unless otherwise indicated, all the quality control criteria for the methods above have been met.

---

RL (reporting limit) - 0.2ppm      Note on units: mg/L is the same as ppm (w/v).



**Appendix E**  
**Building 86 Hazardous Building Material**  
**Assessment Report**

10-1066-5  
June 11, 2015



Naval Facilities Engineering Command (NAVFAC)  
Portsmouth Naval Shipyard  
Kittery, ME 03904

Re: **Hazardous Building Materials Assessment  
Portsmouth Naval Shipyard  
Building 86  
Kittery, ME 03904**

To Whom It May Concern,

Tighe & Bond conducted a pre-renovation hazardous building materials assessment (HBMA) at the referenced structure. The evaluation was performed by Tighe & Bond's Maine certified asbestos inspectors Jason Hayward (AI-0683) on April 29, 2015. The purpose of the evaluation was to assist the Portsmouth Naval Shipyard (PNSY) in identifying asbestos-containing building materials (ACBM) and hazardous materials / components requiring abatement or mitigation in the event a renovation is planned.

The HBMA included the following tasks:

- Assess, sample and quantify presumed asbestos-containing materials (PACM) that may be disturbed during building renovation associated with the NAVFAC energy project as directed by NAVFAC representatives or demolition drawings provided by Acadia Engineers & Constructors (AEC)
- Perform polarized light microscopy (PLM) laboratory analysis of PACM bulk samples
- Perform confirmatory transmission electron microscopy (TEM) laboratory analysis of floor tiles testing negative for asbestos by PLM analysis
- Assess and inventory possible hazardous materials / components including building materials presumed to contain polychlorinated biphenyls (PCBs) and lead based paints (LBP) that may be disturbed during building renovation associated with the NAVFAC energy project
- Collect and submit LBP samples for SW846-7420/3051 laboratory analyses and PCB samples for total PCB analyses
- Collect and submit painted and unpainted building materials presumed to be representative of the renovation waste stream for Toxicity Characteristic Leaching Procedure (TCLP) analysis
- Provide a report of findings together with recommendations for compliance with applicable asbestos and hazardous material regulations



## Asbestos Survey

Prior to any type of building demolition/renovation, a survey is required to identify and quantify asbestos. This survey is required by Maine asbestos regulations Title 38, Chapter 12-A: Asbestos §1271-§1284 (Department of Environmental Protection); Chapter 425 – Asbestos Management Regulations, effective April 3, 2011 (Department of Environmental Protection); the National Emission Standards for Hazardous Air Pollutants (NESHAP) Standard for Demolition and Renovation 40 CFR Part 61.145, as well as applicable portions of the Occupational Safety and Health Administration (OSHA) CFR 1926.1101 asbestos in construction regulations. These regulations must be implemented during all facets of asbestos abatement and demolition/renovation as required by law.

The asbestos survey consisted of a thorough assessment throughout accessible interior and exterior locations of Building 86 as depicted on NAVFAC energy project demolition drawings provided by AEC and under the direction of a NAVFAC representative. Supplemental information regarding presence or absence of asbestos in select building materials was also provided by PNSY representative Delano Leonard through the use of previous assessment data. The purpose of the assessment was to determine the presence or absence of PACM that may be impacted during the proposed renovation. Bulk samples of PACM were collected from each homogenous group of materials in general accordance with standards described in the Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) Regulations for schools. A minimum of three samples of each suspect homogeneous group of materials are typically collected (contingent upon quantity) to confirm or deny the presence of asbestos content in the homogenous materials. The PACM is considered negative for asbestos only when the results of all samples indicate no asbestos detected above the Maine Department of Environmental Protection (MEDEP) threshold of 1% or greater asbestos.

Following collection, bulk samples were submitted to ProScience Analytical Services (PAS) of Woburn, Massachusetts for analysis via polarized light microscopy (PLM) with dispersion staining in accordance with the EPA/600/R-93/116 method. Although PLM Method EPA/600/R-93/116 is designated by the EPA and the state, the PLM methodology occasionally provides false negative analysis for asbestos. This occurs in non-friable organically bound (NOB) materials such as floor coverings, roofing materials, caulking, etc. In these instances, EPA guidance document suggests that TEM be considered to provide more definitive analysis of these types of materials. At the request of PNSY a confirmatory sample of floor tile which tested non-detect for asbestos by PLM method be analyzed by TEM method. No floor tile materials necessitating confirmatory TEM analysis were encountered as part of this building survey.

TEM samples are 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 assessment information for each PACM evaluated is summarized in the *Asbestos-Containing Materials Inventory* provided in Appendix A as Table 1. The inventory lists PACM sampled, sample result, sample numbers, material locations and specific comments relative to materials observed. Additionally, the *PAS laboratory analytical report* is included in Appendix B.

The asbestos containing materials discovered throughout the structure shall be removed by a licensed asbestos abatement contractor prior to any activity that has the potential to render these materials friable. We also recommend the following general requirements:

- A standardized Scope of Work/Specification should be established for the removal of asbestos containing materials at the structure. We recommend that the specification be developed by a licensed asbestos designer and it should address such important issues as regulatory requirements, notification procedures, air sampling requirements and other pertinent information.
- A Form N Asbestos Project Notification must be prepared by a licensed asbestos contractor and postmarked to Maine DEP at least ten (10) calendar days or received five (5) business days prior to the onset of asbestos abatement activity.
- Any employees who may work in this structure should be notified that asbestos containing materials are present and to not disturb them without proper training.

## **Hazardous Materials Survey**

Tighe & Bond performed a visual inspection of building equipment and materials that could contain hazardous components and have the potential for disturbance during a renovation.

Example of materials or components which are typically encountered in a building renovation consist of: heating oils, fire extinguishers, mercury containing thermostats, fluorescent light tubes and associated ballasts. The results of our survey confirmed the presence of hazardous materials/equipment within Building 13 and they are summarized in the *Miscellaneous Hazardous Materials Inventory* provided in Appendix A as Table 2.

These components should be removed / recycled or disposed of by trained personnel prior to demolition/renovation. Sampling and analyses of suspect hazardous materials were not performed as part of this scope of work, nor is it necessary to do so.

## **Lead Based Paint**

The Occupational Safety and Health Administration (OSHA) require special work practices if lead paint is disturbed during renovation. The lead paint must be handled in general accordance with the lead regulations, as well as any other state, Federal or local regulations.

Lead paint samples were collected from representative types of paint and were analyzed by ProScience Analytical Services, Inc. in Woburn, MA. The samples were analyzed by SW846-7420/3051 and a summary of the test results is presented in Appendix A as Table 3. The laboratory data are shown in Appendix B. The MEDEP defines lead containing paint as those that have greater than 0.5% lead by weight in the paint mixture.

The test results in Table 3 show that six (6) samples collected, contain lead that are below the 0.5% lead by weight threshold. One sample was collected from each different paint application that may be disturbed during the building renovation. Samples results are discussed in Table 3 in Appendix A.

Please note that paint can also contain hazardous levels of other materials such as cadmium, chromium, mercury, etc. which were not evaluated as part of Tighe & Bond's scope of work for this survey.

The lead samples were collected to assist PNSY in complying with OSHA regulations for construction activities under 29 CFR 1926.26 for the renovation areas. Further sampling may need to be performed if the scope of work for this project changes or if further delineation of the painted areas is required.

## **Lead Toxicity Characteristic Leaching Procedure**

The purpose of Toxicity Characteristic Leaching Procedure (TCLP) sample collection is to determine if the generated renovation waste stream is subject to disposal requirements under the Federal EPA "Resource Conservation and Recovery Act" (RCRA - 40 CFR Part 261). In order to maintain compliance with RCRA, all lead containing material that is subject to solid waste disposal requirements must be properly evaluated using one of several types of TCLP testing methods to determine if the materials are characteristically hazardous.

TCLP samples are typically collected utilizing a "Composite Sample and Demolish Method" to assess the lead content of the entire waste stream in lieu of painted components only. These materials included percentages of unpainted wood, asphalt-based roofing, concrete, and painted wood. Each of these materials typically become co-mingled during demolition and disposed of together, within a construction and demolition (C&D) debris type waste stream.

Sample collection of building materials / components expected to be disturbed during the renovation and have the potential to contain lead leachate concentrations greater than five (5) milligrams per liter (mg/L) was not performed as part of this building survey, due to the potentially low amounts of anticipated waste stream material that may be associated with the energy project renovations.

Additionally, The American Society for Testing and Materials (ASTM) Standard E1908-10 "Standard Guide for Sample Selection of Debris Waste from a Building Renovation or Lead Abatement Project for TCLP Testing for Leachable Lead (Pb)", recommends debris waste stream to have more than one painted component and that the debris waste stream are at least partially segregated and that the volume of each type of component in the debris waste stream may be estimated. The waste stream is only anticipated to contain one painted component (sheetrock) and it was not feasible at the time of the survey to make a determination of the volume of each type of debris that would be impacted during the renovations.

Regardless of TCLP results, workers should wear personal protective equipment as necessary during any lead paint disturbance.

## **Polychlorinated Biphenyls (PCBs) in Building Materials**

### **Discussion**

PCBs in building materials have received extensive attention over recent years by environmental regulators, consultants, and contractors, and PCBs are increasingly being identified in buildings that may undergo demolition or renovation. Buildings/structures that were constructed (or renovated) between the 1950s and the late 1970s have a greater potential to contain PCBs in certain building materials.

It is important to note that EPA regulations which govern the Toxic Substance Control Act (TSCA) requirements including PCBs and PCB Bulk Product Wastes, do not require the

sampling for PCBs prior to building demolition or renovation. Therefore there is no current regulatory requirement to sample for PCBs (local, state or Federal).

Regardless of the regulatory sampling requirements many waste/recycling receiving facilities may request PCB sampling to be performed. If it is suspected that PCBs could be present, it is important to also mitigate potential human health and safety risk to abatement/demolition contractors and owners' potential liability associated with the proper recycling/disposal of certain generated demolition waste materials.

No materials in our opinion necessitating PCB analysis were encountered as part of this building survey.

Please do not hesitate to call the undersigned at (508) 471-9614 if you have any questions concerning this information or if you wish to implement any of our recommendations.

Very truly yours,

**TIGHE & BOND, INC.**

Jason Hayward  
EH&S Compliance Specialist  
Maine Asbestos Inspector (AI-0683)

**Enclosures**

**Appendix A: Inventory Tables**

**Appendix B: Sample Laboratory Reports**

**TABLE 1**  
Asbestos Bulk Sampling Results Table  
Building 86  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result	Comment
86-01 86-02 86-03 86-04 86-05	Sheetrock	<b>East First Floor:</b> Throughout <b>West First Floor:</b> Throughout	-	Negative	Material tested as non-asbestos.
86-06 86-07 86-08 86-09 86-10	Joint Compound	<b>East First Floor:</b> Throughout <b>West First Floor:</b> Throughout	-	Negative	Material tested as non-asbestos.
86-11 86-12 86-13 86-14 86-15	Tape	<b>East First Floor:</b> Throughout <b>West First Floor:</b> Throughout	-	Negative	Material tested as non-asbestos.
86-16 86-17 86-18	12" x 12" ceiling tile, dot pattern	<b>East First Floor:</b> Throughout	-	Negative	Nailed in place, no adhesive. Material tested as non-asbestos.
86-19 86-20 86-21	2' x 4' Ceiling panel, dot and fissure pattern	<b>East First Floor:</b> Nuclear Business Office (1200N)	-	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Exterior:</b> West roof, chillers	NA	Not Sampled	Insulated piping appears to be foam or fiberglass insulation.
86-22 86-23 86-24	Roofing cement, with silver coating	<b>Exterior:</b> West roof, chiller piping	-	Negative	Applied at various locations on the metal jacketing. Material tested as non-asbestos.
86-25 86-26 86-27	Silver coating on roofing cement	<b>Exterior:</b> West roof, chiller piping	-	Negative	Coats the roofing cement. Material tested as non-asbestos.
86-28 86-29 86-30	Caulking	<b>Exterior:</b> West roof, chiller piping at metal jacket seams	-	Negative	Two linear feet per seam. Material tested as non-asbestos.
86-31 86-32 86-33	Joint compound	<b>Basement East:</b> North wall, near piping from exterior ACCU's	-	Negative	Used at pipe penetrations. Material tested as non-asbestos.
Not Sampled	Red caulking	<b>Basement East:</b> Southern portion, near piping penetrate to the first floor	-	Not Sampled	Caulking appears to non-asbestos silicon caulking.

Sample #	Material	Location	Approximate Quantity	Result	Comment
86-34 86-35	Sheetrock	<b>Basement East:</b> Built out room	-	Negative	Material tested as non-asbestos.
86-36 86-37	Joint Compound	<b>Basement East:</b> Built out room	-	Negative	Material tested as non-asbestos.
86-38 86-39	Tape	<b>Basement East:</b> Built out room	-	Negative	Material tested as non-asbestos.
Not Sampled	Pipe Insulation	<b>Exterior ACCU:</b> Ground level	NA	Not Sampled	Insulated piping appears to be foam insulation.
Previously Tested by PNSY	Plaster	<b>Stairwell extending to basement</b> <b>First floor walls</b>	See comment	Reported Positive by PNSY	<b>Plaster is not likely to be impacted by the energy project renovations, if determined plaster will be impacted PNSY should relay locations and types of asbestos containing plaster.</b>
Previously Tested by PNSY	Floor tile	Various locations	See comment	Reported Positive by PNSY	<b>Various types and some floor tile located under carpeting. Floor tile is not likely to be impacted by the energy project renovations, if determined floor tiles will be impacted PNSY should relay locations and types of asbestos containing floor tile.</b>
<b>LEGEND</b> ND = NONE DETECTED NA = NOT APPLICABLE TSI - THERMAL SYSTEMS INSULATION PNSY = PORTSMOUTH NAVAL					

**TABLE 2**

Miscellaneous Hazardous Materials

Building 86

Portsmouth Naval Shipyard

<b>Material</b>	<b>Location</b>	<b>Quantity</b>	<b>Comment</b>
Thermostats	<b>Throughout East and West Wings:</b> Various locations	20 count	No thermostats likely containing Hg were observed during the survey. Thermostats observed appeared to be non-Hg. However, any thermostats that are encountered during renovations are to be packaged and disposed as a Hg containing waste. Thermostats that are clearly labeled "No Hg" may be disposed of as general construction debris.
R-22 Refrigerant (Chlorodifluoromethane)	<b>Interior and Exterior Cooling Units:</b>	Unknown quantity of R-22	Drain all equipment containing refrigerants, including tanks, piping, etc. All refrigerants are to be properly containerized and disposed of in accordance with applicable state and Federal regulations.
<b>LEGEND</b> Hg = Mercury PCB = Polychlorinated biphenyl ACCU = Air Cooled Chiller Unit			

**LEAD BASED PAINT INVENTORY**  
**River Road Pump Station**  
**River Road**  
**Jaffrey, New Hampshire**

**TABLE 3**  
Lead Based Paint Sampling Results Table  
Building 86  
Portsmouth Naval Shipyard

Sample #	Material	Location	Approximate Quantity	Result (by weight)	Comment
LBP-86-01	White Paint	<b>East First Floor:</b> Throughout <b>West First Floor:</b> Message Center IDS, exterior wall  On ceiling deck, conduit, support beams	Quantity of material to be removed will be dependent on Contractors needs	0.086	The white paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-86-02	Tan Paint	<b>West Roof:</b> Chiller stands	Quantity of material to be removed will be dependent on Contractors needs	<RL	The tan paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-86-03	White Paint	<b>Basement:</b> Ceiling	Quantity of material to be removed will be dependent on Contractors needs	0.095	The white paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-86-04	Green Paint	<b>Basement:</b> Walls	Quantity of material to be removed will be dependent on Contractors needs	0.34	The green paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-86-05	Blue Paint	<b>Basement:</b> Walls	Quantity of material to be removed will be dependent on Contractors needs	0.24	The blue paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.
LBP-86-06	Green Paint, with under coats of brown and tan paints	<b>Operations Office:</b> Support columns	Quantity of material to be removed will be dependent on Contractors needs	0.22	The tan paint tested less than the regulatory limit. However, painted surfaces containing any level of lead shall not be subjected to renovation impact activities that have potential to create airborne lead levels that exceed the OSHA action limit of 30 micrograms per cubic meter. If renovation actions have potential to expose a worker above the threshold and a negative exposure assessment is not conducted, contractor shall wear personal protective equipment (e.g. respirators and tyvek suits) until the negative exposure assessment is completed. Clean all work areas in accordance with applicable OSHA Lead in Construction regulations and the Environmental Protection Agency's Renovate, Repair and Painting Program requirements.

**LEGEND**  
NA = NOT APPLICABLE  
SF = SQUARE FEET  
LF = LINEAR FEET  
<RL = LESS THAN REPORTING LIMIT (% BY WEIGHT)  
FEDERAL REGULATORY LIMIT IS 0.5% LEAD BY WEIGHT



# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 86  
 Method: EPA/600/R-93/116

**Batch: B96305**  
 Date Sampled: 4/29/2015  
 Date Received: 5/5/2015  
 Date Analyzed: 5/11/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-01	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-02	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-03	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-04	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-05	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-06	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 86  
 Method: EPA/600/R-93/116

**Batch: B96305**  
 Date Sampled: 4/29/2015  
 Date Received: 5/5/2015  
 Date Analyzed: 5/11/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-07	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-08	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-09	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-10	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-11	Beige	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-12	Beige	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 86  
 Method: EPA/600/R-93/116

**Batch: B96305**  
 Date Sampled: 4/29/2015  
 Date Received: 5/5/2015  
 Date Analyzed: 5/11/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-13	Beige	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-14	Beige	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-15	Beige	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-16	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Ceiling Tile														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-17	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Ceiling Tile														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-18	Tan	0	0	0	0	0	0	0	0	95	0	0	0	5
Description: Ceiling Tile														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 86  
 Method: EPA/600/R-93/116

**Batch: B96305**  
 Date Sampled: 4/29/2015  
 Date Received: 5/5/2015  
 Date Analyzed: 5/11/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-19	Beige	0	0	0	0	0	0	0	45	45	0	0	0	10
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-20	Beige	0	0	0	0	0	0	0	45	45	0	0	0	10
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-21	Beige	0	0	0	0	0	0	0	45	45	0	0	0	10
Description: Ceiling Panel														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-22	Black	0	0	0	0	0	0	0	0	5	0	0	TR	95
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-23	Black	0	0	0	0	0	0	0	0	5	0	0	TR	95
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-24	Black	0	0	0	0	0	0	0	0	5	0	0	TR	95
Description: Roofing Cement														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 86  
 Method: EPA/600/R-93/116

**Batch: B96305**  
 Date Sampled: 4/29/2015  
 Date Received: 5/5/2015  
 Date Analyzed: 5/11/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-25	Silver	0	0	0	0	0	0	0	0	2	0	0	2	96
Description: Silver Coating														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-26	Silver	0	0	0	0	0	0	0	0	2	0	0	2	96
Description: Silver Coating														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-27	Silver	0	0	0	0	0	0	0	0	2	0	0	2	96
Description: Silver Coating														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-28	Multi	0	0	0	0	0	0	2	0	0	0	0	0	98
Description: Caulking														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-29	Multi	0	0	0	0	0	0	2	0	0	0	0	0	98
Description: Caulking														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-30	Multi	0	0	0	0	0	0	2	0	0	0	0	0	98
Description: Caulking														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 86  
 Method: EPA/600/R-93/116

**Batch: B96305**  
 Date Sampled: 4/29/2015  
 Date Received: 5/5/2015  
 Date Analyzed: 5/11/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-31	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-32	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-33	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-34	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-35	Multi	0	0	0	0	0	0	0	0	20	0	0	0	80
Description: Sheetrock Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-36	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound Location: N/A Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

# ProScience Analytical Services, Inc.

Client Name: Tighe & Bond, Worcester  
 PO #: N/A  
 Client Project #: 10-1066-5-01  
 Client Reference: PNSY - Building 86  
 Method: EPA/600/R-93/116

**Batch: B96305**  
 Date Sampled: 4/29/2015  
 Date Received: 5/5/2015  
 Date Analyzed: 5/11/2015  
 Date of Report: 5/27/2015

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	OTH	NON	
86-37	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint Compound														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-38	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

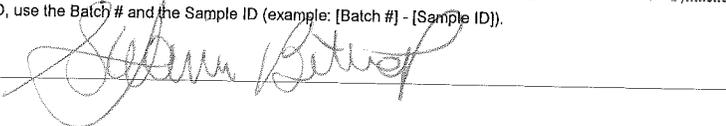
Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
86-39	Yellow	0	0	0	0	0	0	0	0	98	0	0	0	2
Description: Tape														
Location: N/A														
Comments: <span style="float: right;">Is asbestos present? No. Analyzed: Yes</span>														

Asbestos Codes: CHR = Chrysotile    AMO = Amosite    CRO = Crocidolite    ACT = Actinolite    TRE = Tremolite    ANT = Anthophyllite  
 Non-Asbestos Codes: FBG = Fiberglass    MNW = Mineral Wool    CEL = Cellulose    HAR = Hair    SYN = Synthetic    OTH = Other    NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

\* All results are in percentage.

Analyst: Stefanie Bishop



**Client Name:** Tighe & Bond, Worcester  
**Client Project #:** 10-1066-5-01  
**Client Reference:** PNSY - Building 86

**Batch:** B 96305  
**Date Received:** 5/5/2015  
**Date Due:** 5/12/2015  
**Stop on first pos:** Yes or No

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent										
			SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous			
86-01	Sheetrock	SPB	M	C	N	#	M																								
86-02	Sheetrock		C	M	N	#	M																								
86-03	Sheetrock		C	M	N	#	M																								
86-04	Sheetrock		C	M	N	#	M																								
86-05	Sheetrock		C	M	N	#	M																								
86-06	Joint Compound		C	M	N	#	M																								
86-07	Joint Compound		C	M	N	#	M																								
86-08	Joint Compound		C	M	N	#	M																								

Comments:

Batch: B96305

Sample ID	Description	Analyst	Stereo Scope					Optical Properties					RI		Asbestos Percent						Non-Asbestos Percent									
			SSAPE	Color	Homogeneity	Texture	Frable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous		
86-09	Joint Compound	Bohner																												
86-10	Joint Compound	Bohner																												
86-11	Tape	Bohner																												
86-12	Tape	Bohner																												
86-13	Tape	Bohner																												
86-14	Tape	Bohner																												
86-15	Tape	Bohner																												
86-16	Ceiling Tile	Bohner																												
86-17	Ceiling Tile	Bohner																												

Comments:





Batch: B 96305

Sample ID	Description	Analyst	Stereo Scope					Optical Properties						RI		Asbestos Percent						Non-Asbestos Percent								
			SSAPE	Color	Homogeneity	Texture	Frable	Morphology	Extinction	Elongation	Sign of	Birefringence	Pleochroism	Parallel	Perpendicular	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous		
86-36	Joint Compound																													
86-37	Joint Compound																													
86-38	Tape																													
86-39	Tape																													

Analyzed By / Date:

*Stephen Burt*  
5-17-15

QC By / Date: *Stacia* 5/11/15

# of Samples: 39

H.W. KA-5-12

Comments:

SSAPE = Stereo Scope Asbestos Percentage Estimate

Birefringence L= less than .010, M= .011-.029, H= greater than .03; Microscope Olympus BH-2, Serial # circle 1-242277 229027/235000, 230663

Proj. Name PNSY - Building 86

Proj. # 10-1066-5-01

*B96305*

**Client**  
 Name Tighe & Bond  
 Address 446 Main Street, Worcester, MA

PO #

**PLM Bulk**

Bulk (600 / R-93 / 116) **X**  
 Wipes (EPA 600)

**Contact**  
 Name Jason Hayward  
 Phone 508-471-9614  
 Fax  
 Email jhayward@tighebond.com

Off-hours work is available but subject to PASI approval and surcharges. TAT in business days.

**TAT (X)**

**Results**

Point Count (EPA 600)  
 Soil (EPA)  
 NOB (NY-ELAP)  
**Special Instructions**

Rush  
 Same Day  
 Next Day  
 2 Days  
 3 Days  
 4-5 Days

Tel Fax Email  
**X**

Final Report  
 Email Hard Copy  
**X**

Stop on First Positive\* **Y**  
 TEM NOB Negative Bulks  
 Point Count <10% Ash.

\*If no selection is made for SFP lab will analyze all samples.

Line #	Sample ID	Date Collected	Date / Time	Description
1	86-01	4/29/2015	5/1/15 3:00	Sheetrock
2	86-02	4/29/2015		Sheetrock
3	86-03	4/29/2015		Sheetrock
4	86-04	4/29/2015		Sheetrock
5	86-05	4/29/2015		Sheetrock
6	86-06	4/29/2015		Joint compound
7	86-07	4/29/2015		Joint compound
8	86-08	4/29/2015		Joint compound
9	86-09	4/29/2015		Joint compound
10	86-10	4/29/2015		Joint compound
11	86-11	4/29/2015		Tape
12	86-12	4/29/2015		Tape
13	86-13	4/29/2015		Tape
14	86-14	4/29/2015		Tape
15	86-15	4/29/2015		Tape

**Location**

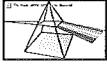
*Margaret Valente*  
*5/5/15 9:50am*

*B96305*

Proj. Name PNSY - Building 86

Proj. # 10-1066-5-01

16	86-16	4/29/2015	Ceiling tile
17	86-17	4/29/2015	Ceiling tile
18	86-18	4/29/2015	Ceiling tile
19	86-19	4/29/2015	Ceiling panel
20	86-20	4/29/2015	Ceiling panel
21	86-21	4/29/2015	Ceiling panel
22	86-22	4/29/2015	Roofing cement
23	86-23	4/29/2015	Roofing cement
24	86-24	4/29/2015	Roofing cement
25	86-25	4/29/2015	Silver coating
26	86-26	4/29/2015	Silver coating
27	86-27	4/29/2015	Silver coating
28	86-28	4/29/2015	Caulking
29	86-29	4/29/2015	Caulking
30	86-30	4/29/2015	Caulking
31	86-31	4/29/2015	Joint compound
32	86-32	4/29/2015	Joint compound
33	86-33	4/29/2015	Joint compound
34	86-34	4/29/2015	Sheetrock
35	86-35	4/29/2015	Sheetrock
36	86-36	4/29/2015	Joint compound
37	86-37	4/29/2015	Joint compound
38	86-38	4/29/2015	Tape
39	86-39	4/29/2015	Tape



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

Telephone: 781-935-3212  
Facsimile: 781-932-4857  
Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

### Laboratory Report

**Contact:** Jason Hayward  
**Client:** Tighe & Bond  
**Address:** 446 Main St  
Worcester, MA 01608

**Batch #:** C 283984  
**Date received:** 5/5/2015  
**Date analyzed:** 5/6/2015  
**Date of report:** 5/6/2015

**Project #** 10-1066-5-01  
**P.O.#** N/A  
**Project Site:** PNSY - Bldg. 86

**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 520764	LBP-86-01	4/29/15	White Paint	0.086	0.028	
C 520765	LBP-86-02	4/29/15	Tan Paint	<RL	0.019	
C 520766	LBP-86-03	4/29/15	White Paint	0.095	0.014	
C 520767	LBP-86-04	4/29/15	Green Paint	0.34	0.021	
C 520768	LBP-86-05	4/29/15	Blue Paint	0.24	0.015	
C 520769	LBP-86-06	4/29/15	Brown / Green Paint	0.22	0.025	

\_\_\_\_\_  
**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

www.proscience.net  
 general@proscience.net

Push/<6 Hours

Turn Around Time Requested

Same Day

Next Day

2 Day

3 Day

5 Days

Client Tight & Bond

NELAC analysis

Element Pb gravimetric

Address Street 446 main street

Town Worcester

State/Zip MA 01608

Project Site Line 1 DN57 - Bldg. 86

Project Number (01066-501)

TYPE OF ANALYSIS (circle)	
DUST WIPES	<input checked="" type="radio"/> PAINT
AIR	TSP
PM10	Other

Other (please specify under comments)

BATCH NUMBER

Contact Jason Hayward

Phone  
 FAX  
 AIV/Pager

Please use a separate form for each matrix.

ASTM E1792

FOR LABORATORY USE ONLY

QC

**C283984**

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/ICP Reading	RESULT
4/29/15	LBP-86-01	White Paint													620764
4/29/15	LBP-86-02	Tan Paint													605
4/29/15	LBP-86-03	White Paint													606
4/29/15	LBP-86-04	Green Paint													607
4/29/15	LBP-86-05	Blue Paint													608
4/29/15	LBP-86-06	Brown/Green Paint													609
JUH 5/1/15															
P															

Relinquished By: Jason Hayward

Date: 5/1/15

Time: 3:00

Received By: [Signature]

Date: 5/1/15

Time: 9:50am

Comments:

PAGE 1 OF 1

Field blanks are required for airs and wipes per the sampling method.  
 Proscience Analytical Services reserves the right to subcontract samples to an appropriately accredited laboratory when we are unable to perform the analysis in house.