

Limited Environmental Survey
Above Ground Steam Lines
Naval Station Great Lakes
Great Lakes, Illinois

Prepared for:

Department of the Navy
Naval Station Great Lakes
Naval Facilities Engineering Command (NAVFAC), Midwest
201 Decatur Avenue, Building 1A
Great Lakes, Illinois 60088

Prepared by:



Environmental Design International inc.
33 West Monroe Street, Suite 1825
Chicago, Illinois 60603
(312) 345-1400
www.envdesigni.com

EDI Project No. 1602.029.01

February 9, 2012 Approved for Release By

A handwritten signature in black ink, appearing to read 'Gary P. Flentge', written over a horizontal line.

Gary P. Flentge, MPH, LEHP, REA
Vice President, Industrial Hygiene

A handwritten signature in black ink, appearing to read 'Craig A. Chambers', written over a horizontal line.

Craig A. Chambers, PE
Illinois Project Designer #100-18299



Exp. Date: Nov. 30, 2013



Environmental Design
International inc.

33 W. Monroe St., Suite 825
Chicago, Illinois 60602
phone: 312.345.1400
fax: 312.345.0529
www.envdesi.com

February 9, 2012

Mr. Carlo Luciano
Naval Station Great Lakes
NAVFAC Midwest IPT
Building 1A
201 Decatur Avenue
Great Lakes, Illinois 60088

SUBJECT: Limited Environmental Survey– Above Ground Steam Lines
Naval Station Great Lakes
Great Lakes, Illinois
EDI Project No. 1602.029.01

Dear Mr. Luciano:

Enclosed please find the Limited Environmental Survey for the Above Ground Steam Lines, located on the Naval Station Great Lakes in Great Lakes, Illinois, prepared by Environmental Design International inc. (EDI)

EDI performed the survey and identified and sampled suspect asbestos-containing materials for the accessible steam pipe insulation materials and materials related to Steam Lines Targeted for Demolition. Asbestos samples were submitted to a National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratory for analysis. Survey and laboratory results indicate that some of the suspect materials sampled contained asbestos.

EDI performed a visual inspection of the Above Ground Steam Lines and collected representative samples of suspect lead painted components. The samples were submitted to an Environmental Lead Laboratory Accreditation Program (ELLAP) accredited laboratory for analysis. The paint samples did identify LBP; LBP abatement is recommended.

Please feel free to contact me at (312) 345-1400 x136 or by email at pfeeley@envdesigni.com with any comments or questions regarding EDI's investigation and this report.

Sincerely,

Environmental Design International inc.

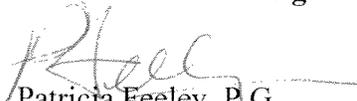

Patricia Feeley, P.G.
Project Manager

Table of Contents		Page
Executive Summary		2
1.0	Introduction	4
1.1	Scope of Work and Project Background.....	4
1.2	Building Steam Line Descriptions	5
1.3	Safety	6
2.0	Asbestos Survey	7
2.1	Asbestos Survey Methodology	7
2.2	Asbestos Results	8
3.0	Paint Survey	10
3.1	Paint Survey Methodology	10
3.2	Paint Results	10
4.0	Hazardous Material Survey.....	11
4.1	Hazardous Material Survey Methodology	11
4.2	Hazardous Materials Results.....	11
5.0	Findings and Recommendations	12
5.1	Asbestos Survey	12
5.2	Paint Survey	12
5.3	Hazardous Materials Survey.....	12
6.0	Limitations	13
7.0	Definitions	14
Appendices		
Appendix A:	Asbestos Summary Tables and Photographs	
Appendix A1:	Supplemental Asbestos Summary Tables and Photographs – Iowa & Ohio Street Sampling, 11-2011	
Appendix B:	Asbestos Sample Location Drawings	
Appendix B1:	Supplemental Asbestos Sample Location Drawings – Iowa & Ohio Street Sampling, 11-2011	
Appendix C:	Asbestos Laboratory Results and Certifications	
Appendix C1:	Supplemental Asbestos Laboratory Results and Certifications – Iowa & Ohio Street Sampling, 11-2011	
Appendix D:	Paint Chip Summary Tables and Photographs	
Appendix E:	Paint Chip Sample Location Drawings	
Appendix F:	Paint Chip Laboratory Results and Certifications	
Appendix G:	Employee License and Certifications	

Executive Summary

Environmental Design International inc. (EDI) was retained by the Department of the Navy, Naval Facilities Engineering Command (NAVFAC) Midwest, under Navy Contract Number N40083-07-A-0016, BPA Call Number 0030, to perform a limited environmental survey of the Steam Lines Targeted for Demolition located on the Naval Station Great Lakes in Great Lakes, Illinois. The environmental survey included inspection and sampling for the presence of asbestos, lead containing paint, lead-based paint (LBP), and observation of potential hazardous materials. The Base wide Steam Lines distribution system targeted for demolition included aboveground steam lines, underground steam lines, and associated Buildings. This report addresses the limited environmental survey of the Above Ground Steam Lines.

Every attempt was made to thoroughly evaluate and assess the presence and condition of suspect asbestos-containing materials (ACM), lead-based paint (LBP), and hazardous materials. Any suspect ACM, LBP, or other environmental hazards identified during renovation that are not specifically listed in this report should be thoroughly evaluated, sampled, and analyzed prior to disturbance, in accordance with applicable regulatory standards.

EDI performed a visual inspection of the aboveground steam lines, which included thermal system insulation (TSI) and related materials. The typical configuration observed along the above ground steam line runs included:

- Four pipe lines heading south of Building 11, then generally west across the main base;
- One pipe line heading north of building 11.
- Two pipe lines along Iowa Street;
- Two pipe lines along Ohio Street; and
- Aboveground lines under Farragut Avenue Bridge;

Suspect pipe line asbestos materials included: elbows, expansion joints, paper, sheet wrap material, sealant, and black tar; non-suspect materials included foam and fiberglass insulation. Representative samples of suspect ACM were collected from the pipe lines. The samples were submitted to a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory for bulk analysis. Based on the visual inspection and bulk sample analysis results, the above ground steam lines, while assessed individually, were observed to be similar and consist of similar homogeneous areas (HAs). The piping insulation runs were foam or fiberglass, the elbows were ACM, black wrap, black/grey sheet wrap, and cloth wraps were ACM. The homogeneous areas of aboveground steam lines were the same for the main base and for the steam lines along Ohio and Iowa Streets. Additional assessment and sampling of the steam line runs along the Ohio and Iowa Street was performed, as requested by NAVFAC, to confirm the presence of ACM on TSI runs. The assessment and sampling confirms the previous finding of this report that the black wrap on insulated runs is ACM. All instances of elbows, black wrap, black/grey wrap, and cloth wraps should be considered ACM on all above ground steam lines, with the exception of the materials underneath the Farragut Avenue Bridge. Materials

underneath the Farragut Avenue Bridge are identified in the “Limited Environmental Survey, Steam Lines Installed Post 1991, Naval Station Great Lakes, Great Lakes, Illinois” prepared by EDI, and are not ACM. Please reference above-listed environmental survey for detailed information on the materials underneath the Farragut Avenue Bridge.

Any ACM that will be disturbed during planned renovation must be abated in accordance with federal, state and local regulations.

EDI performed a visual inspection of aboveground steam line materials and collected representative samples of suspect LBP components. The samples were submitted to an Environmental Lead Laboratory Accreditation Program (ELLAP) accredited laboratory for analysis. The paint samples identified LBP on metal and concrete supports for the aboveground steam lines; and LBP abatement is recommended.

EDI performed a visual survey of the aboveground Steam Lines for other potential hazardous materials. Suspect hazardous materials should be removed, handled, and disposed of or stored in accordance with applicable federal, state, and local regulations. No other suspect hazardous materials were identified along the aboveground Steam Lines.

1.0 Introduction

Environmental Design International inc. (EDI) was retained by the Department of the Navy, Naval Facilities Engineering Command (NAVFAC) Midwest, under Navy Contract Number N40083-07-A-0016, BPA Call Number 0030, to perform a limited environmental survey of the Steam Lines Targeted for Demolition located on the Naval Station Great Lakes in Great Lakes, Illinois. The environmental survey included inspection and sampling for the presence of asbestos, lead containing paint, LBP, and observations of potential hazardous materials. The Base wide Steam Lines distribution system targeted for demolition included aboveground steam lines, underground steam lines, and associated Buildings. This report addresses the limited environmental survey of the Above Ground steam lines.

The original field survey was performed by IDPH-licensed asbestos inspectors Mr. Jose Aguilera and Mr. John Feely. Mr. Jason Janssen, , Mr. John Wellman, and Ms. Alpana Chaudhary assisted the survey team as field technicians performing duties including: health & safety oversight; data scribe; and, photographic support. The original field survey was performed on June 6 - 10 and 13 - 15, 2011. EDI IDPH-licensed asbestos inspector Mr. Jose Aguilera and Mr. Gary Flentge returned to the aboveground steam lines to re-sample and collect photographic documentation of the homogenous sampling areas (HSAs) on September 6-9, 2011, and on November 21, 2011, as requested by NAVFAC. This report represents the field notes, samples, and findings from the field work conducted in September and November 2011. Licenses and certifications for EDI licensed staff are provided in Appendix G.

1.1 Scope of Work and Project Background

The purpose of this project (based on the statement of work provided by NAVFAC) is to conduct an Environmental Survey for above ground steam lines Areas (steam pipes) targeted for demolition were inspected; and samples were collected to determine, the presence of asbestos, lead containing paint, and/or LBP, and to identify hazardous materials.

The Work Plan (WP) was completed and approved by NAVFAC in May 2011 and defined the scope of activities, sampling and analysis to be conducted, and the standard health and safety procedures for completing the Environmental Survey. The quality assurance project plan (QAPP) for the Base wide Steam Lines targeted for demolition was also included in the Work Plan. The Environmental Survey focused on survey and sampling for asbestos containing materials (ACM) and lead in paint. The Steam Lines targeted for demolition include above ground steam lines, underground steam lines linked by pits and tunnels, and associated buildings. EDI conducted the initial Steam Line survey on June 6-15 and provided preliminary draft reports of the asbestos and lead-paint chip findings. Navy requested that EDI re-format the findings and sample results to better represent the HSAs per Steam Line grouping: Buildings, Aboveground, Steam Lines Installed Post 1991 (underground), Steam Chases (underground), and Steam tunnels (underground). This report focuses on the findings from the visual and representative sampling of the Aboveground Steam Lines. EDI was provided a drawing package titled "FY-12

MILCON# 1111695 Naval Station Great Lakes P-816 Steam Decentralization B-11” to review during the revisit on September 6, 2011. EDI used the Site Piping Plan MD-301 through MD-304 as base drawings to show sample locations, ACM and LBP.

1.2 Building and Steam Line Descriptions

EDI was provided a Naval Station Great Lakes drawing dated October 2010, showing steam lines targeted for demolition. EDI surveyed and sampled the following above ground steam pipe lines (shown as red):

- Four pipe lines heading south of Building 11, then generally west across the main base;
- One pipe line heading north of building 11.
- Two pipe lines along Iowa Street;
- Two pipe lines along Ohio Street;
- Aboveground lines under Farragut Avenue Bridge;

This report addresses the limited environmental survey of the Aboveground Steam Lines, identifying the representative piping TSI and associated HSAs. Each above ground steam line pipe was identified by a unique color code along its entire observed length to assist with line identification, except for the above ground lines under Farragut Avenue Bridge. Colors utilized during the above ground steam line survey include: blue, green, orange, yellow, and white. The configuration of aboveground steam line piping varied based upon location as described in the above list. The typical configurations observed and the color codes utilized are listed below (all sizes estimate):

- Four pipe lines heading south of Building 11, then generally west across the main base
 - Blue - 24" line
 - Yellow - 12" line
 - Orange - 12" line
 - Green - 24" line
- One pipe line heading north of building 11
 - White - 6" line
- Two pipe lines along Iowa Street
 - Green - 18" line
 - Orange - 12" line
- Two pipe lines along Ohio Street
 - Blue - 18" line
 - Yellow - 12" line

The materials of each color coded line were observed to be similar in color, texture, and general appearance across their entire lengths, and in the instance of the blue and green lines, between the 18" and 24" diameters. Spray paint was used to color code the aboveground steam lines as the inspectors assessed the materials. The pipe lines connecting from the main base to Ohio or Iowa Streets could not be observed or verified due to their subterranean location. The materials on each line along Ohio and Iowa Streets were observed to be consistent with their counterparts from the main base. Additional samples of both lines along the Ohio and Iowa Streets were collected on November 21, 2011 and analyzed, as requested by NAVFAC.

The white pipe line heading north was observed to emerge from Building 11 as a bare pipe, and after a short run, to then enter a sealed larger diameter steel pipe containing two other non-steam I pipelines. The larger diameter sealed steel pipe was then observed to continue north to just east of Building 11G, where the white line then re-emerged. EDI was therefore unable to assess the white line while it was encased within the larger diameter steel pipe. However, samples of a tan TSI over fiberglass insulation were collected at the white line re-emergence, before the line continued to Building 11E in fiberglass insulation. It is therefore assumed that the tan TSI over fiberglass continues throughout the length of the larger diameter steel pipe.

Suspect asbestos materials along the pipe lines included TSI, elbows, expansion joints, paper, black/grey wrap, sealant, and black tar. Non-suspect materials along the pipe lines included foam and fiberglass insulation. These suspect and non-suspect materials were found to be similar along the color coded pipe lines.

The pipe lines under Farragut Avenue Bridge were largely inaccessible, as the pipes are suspended underneath the roadway and are significantly elevated above the underlying uneven ground surface, except at the very eastern end of the bridge. Based upon EDI's observation of the materials present on the pipelines under Farragut Avenue Bridge during the initial Steam Line survey on June 6-15 and again on September 6, 2011, the materials present are consistent with the HSAs identified from the steam lines installed post 1991.

1.3 Safety

The above ground steam lines are active. Pipe lines carry steam or condensate (return). Aboveground steam lines were inspected and sampled from ground level. Paint chip samples were collected from ground level or with use of a small ladder. The HASP was provided in the WP dated May 2011.

Standard work consisted of the visual survey and sampling activities and was performed in a modified level D. Level C PPE was used for asbestos sampling, inclusive of a half or full face mask air purifying respirator. The respirator had HEPA filters. Tyvek suits were used for sampling activities. See the WP for further details.

2.0 Asbestos Survey

2.1 Asbestos Survey Methodology

EDI representatives performed a visual inspection to identify suspect ACM on accessible areas of the Aboveground Steam Lines targeted for demolition. The ACM survey was performed in accordance with the United States Environmental Protection Agency (USEPA) *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials* (USEPA 560/5085-030a, October 1985). The ACM survey included the following activities:

- Visual inspection of accessible areas of the Above ground steam lines;
- Collection of bulk samples of identified suspect ACM per homogeneous material in accessible areas of the Steam Lines;
- AIHA and NVLAP accredited laboratory analysis of suspect ACM bulk samples by polarized light microscopy (PLM) to first positive result per homogeneous material; and,
- Preparation of a final report that includes sample locations of representative ACM and the laboratory's analytical report.

HSAs are areas containing materials that are similar in color, texture, and general appearance, and which appear to have been uniformly installed during the same time period. The homogenous areas identified for the Aboveground Steam Lines, excluding the pipe lines under Farragut Avenue Bridge, included the following suspect materials:

- TSI Elbows on 24 inch pipes, 18 inch pipes, and 12 inch pipes,;
- Cloth Wrap;
- Black Wrap;
- Black/grey wrap;
- Black Tar

All assessed aboveground steam lines were observed to have foam and fiberglass thermal system insulation (TSI) along all piping runs on the main base, and along Ohio and Iowa Streets. The homogenous areas identified for the Aboveground Steam Line pipe runs included the following non-suspect materials:

- Foam insulation
- Fiberglass insulation;

The materials present on the steam lines under Farragut Avenue Bridge were identified as consistent with the HSAs identified from the steam lines installed post 1991. The homogenous areas identified for steam lines installed post 1991, including the pipe lines under Farragut Avenue Bridge included the following:

- TSI on 18 inch pipe, 12 inch pipe, 10 inch pipe, and an 8 inch pipe

- Expansion joints;
- TSI Elbows on 18 inch pipes, 12 inch pipe, and 10 inch pipes;
- Paper between metal jackets;
- Gray pipe sealant;
- Black Tar;
- Foam insulation; and
- Fiberglass insulation

Based upon the environmental survey for the steam lines installed post 1991, no ACM was identified, except for the black tar believed to be isolated to Maryland Street. For a complete discussion of materials, sampling, analytical results, and findings for materials identified as installed post 1991, please refer to the report “Limited Environmental Survey, Steam Lines Installed Post 1991, Naval Station Great Lakes, Great Lakes, Illinois” prepared by EDI.

Bulk samples of suspect ACM were collected using wet sampling methods with a coring device or a sample cutter, as appropriate, to collect a cross-section of the suspect ACM. Sample collection tools were decontaminated after each sample to avoid cross contamination. Bulk ACM samples were placed into clean unused sample containers marked with a unique sample identification number. For each sample, the identification number, brief material description, and location of suspect ACM were recorded on a sample log sheet. Chain-of-Custody (COC) procedures were followed for the ACM survey. These procedures provide a written tracking mechanism that lists the person responsible for the sample from collection to delivery to the laboratory. Sample identification numbers, sample locations, and material descriptions were recorded on the chain-of-custody forms.

All bulk samples were analyzed by International Asbestos Testing Laboratory (IATL), Inc. in Mt. Laurel, New Jersey, a NVLAP accredited asbestos laboratory. IATL laboratory certifications are contained in Appendix C. Samples were analyzed by polarized light microscopy (PLM) using USEPA Method 600/R-93/116 (letter from laboratory attached in Appendix C with laboratory certification). PLM is a USEPA-approved method that utilizes a light microscope equipped with polarized filters. While the lab reports do not directly state “PLM,” the laboratory report and letter indicates the use of USEPA Method 600/R-93/116 which is defined as PLM method.

2.2 Asbestos Results

The Asbestos Sample Summary Tables (Tables 1 and 1a) are presented in Appendix A with the Photo Logs of the Aboveground Steam Lines sampling from September 6, 2011 and November 2011. Drawings of Asbestos sample locations are presented in Appendix B. Asbestos laboratory results and certifications are presented in Appendix C. Worker licenses and certifications are attached in Appendix G.

The Asbestos Sample Summary Table (Table 1a) is presented in Appendix A1 with the Photo Logs of the Aboveground Steam Lines from the November 21, 2011 survey work. Drawings of

Asbestos sample locations are presented in Appendix B1. Asbestos laboratory results and certifications are presented in Appendix C1.

The following material was non-detect for asbestos:

- Black tar patch (all color coded lines – HA10)

The following materials tested positive for asbestos:

TSI Elbows on Blue line (HA1): The TSI elbows on the blue pipe line on the main base tested positive for asbestos, reported as 20% and 2.5% Chrysotile.

Black Wrap on Blue Line (HA2 & HA3): The black wrap on the blue line elbows and fiberglass pipe runs tested positive for asbestos, reported as 10% and 20% Chrysotile.

Black Wrap on Yellow Line (HA4, HA5, & HA6): The black wrap on the yellow line elbows and fiberglass pipe runs tested positive for asbestos, reported as 10% and 20% Chrysotile and one sample had 10% Amosite. A sample of TSI yellow line elbow (HA5-14) had 2.1% Chrysotile, and 2.5% Amosite.

Black Wrap on Orange Line (HA7, HA8, HA9): The black wrap on the orange line elbows and fiberglass pipe runs tested positive for asbestos, reported as 10% and 20% Chrysotile.

Black Wrap on Green Line (HA11): The black wrap on the green line fiberglass pipe runs tested positive for asbestos, reported as 10% and 20% Chrysotile.

Black/Grey Wrap on Blue Line (TSIR1): The black/grey wrap on the blue line fiberglass pipe runs tested positive for asbestos, reported as 15% and 50% Chrysotile.

Black/Grey Wrap on Yellow Line (TSIR2): The black/grey wrap on the yellow line fiberglass pipe runs tested positive for asbestos, reported as 25% and 50% Chrysotile.

Black/Grey Wrap on Orange Line (TSIR3): The black/grey wrap on the orange line fiberglass pipe runs tested positive for asbestos, reported as 35% and 40% Chrysotile.

Black/Grey Wrap on Green Line (TSIR4): The black/grey wrap on the green line fiberglass pipe runs tested positive for asbestos, reported as 30% and 45% Chrysotile.

Cloth Wrap on fittings Blue, Green, Yellow & Orange Lines (HA12, HA13, HA14, & HA15): The insulation cloth wrap identified as the above referenced HAs was identified on all the lines (blue, green, yellow, and orange). The material tested positive for asbestos, reported as 95% Chrysotile. The cloth wrap was observed in sporadic locations along the above ground steam lines.

TSI Elbows on Green Line (HA16): The insulation elbows on the green line tested positive for asbestos, reported as PC3.1% and PC1.5% Chrysotile and PC1.2% and PC2.1% Amosite.

TSI over Fiberglass White Line & a Patching material (HA17 & HA18): The insulation over the fiberglass on the white line tested positive for asbestos, reported as 20% Chrysotile. A patch material observed at one location on the white line tested positive for asbestos, reported as PC 1.5% Chrysotile.

In summary, the above ground steam lines (blue, green, orange, yellow, and white lines) while assessed individually, were observed to be similar and consist of similar HAs. The piping wrap was foam or fiberglass, the elbows were ACM, black wrap, black/grey wrap, and cloth wraps were ACM. The aboveground steam lines HSAs were the same for the main base and for Ohio and Iowa Streets, and the additional assessment and sampling performed on November 21, 2011, confirmed the materials as positive for ACM, as previously reported in this report. All instances of elbows, black wrap, black/grey wraps, and cloth wraps should be considered ACM on all above ground steam lines, with the exception of the materials underneath the Farragut Avenue Bridge. Materials underneath the Farragut Avenue Bridge are identified in the “Limited Environmental Survey, Steam Lines Installed Post 1991, Naval Station Great Lakes, Great Lakes, Illinois” prepared by EDI, and are not ACM. Please reference above-listed environmental survey for detailed information on the materials underneath the Farragut Avenue Bridge.

3.0 Paint Survey

3.1 Paint Survey Methodology

EDI conducted an inspection to identify representative painted components on the Above Ground Steam Lines. EDI collected paint chip samples for analysis of lead from metal and concrete supports. The paint chip samples represented Green paint on metal supports and yellow and black paint on concrete supports.

Paint samples were placed into clean unused sample containers marked with a unique sample identification number. For each sample, the identification number, brief material description, location, condition, and estimated quantity of representative paint was recorded on a bulk sample log sheet. Chain-of-Custody (COC) procedures were followed for the lead survey. These procedures provide a written tracking mechanism that lists the person responsible for the sample from collection to delivery to the laboratory. Sample identification numbers, sample locations, and material descriptions were recorded on the chain-of-custody forms. COC forms are provided in Appendix E. The samples were analyzed by laboratory method AAS.

3.2 Paint Survey Results

The paint sample log summary tables are presented in Appendix D with photographs of the representative painted components. Drawings of paint sample locations are presented in Appendix E. Laboratory results and certifications are presented in Appendix F.

The green paint on metal supports had lead results ranging from 11 % to 21% lead by weight, which is a lead-based paint(LBP), defined as containing equal to or greater than 0.5% lead by weight.

The yellow paint on concrete supports had lead results ranging from 5.1% to 19% lead by weight, which is LBP. The black paint on concrete supports had lead results ranging from 12% to 15% lead by weight, which is LBP. Black paint on metal stairs had a lead result of 0.0035% lead by weight, which is a lead containing paint.

LBP abatement is recommended prior to demolition of metal and concrete supports for the aboveground steam lines. Quantities for LBP are documented on Appendix D.

4.0 Hazardous Materials Survey

4.1 Hazardous Materials Survey Methodology

EDI performed a visual survey of the structures associated with the Aboveground Steam Lines for potential hazardous materials.

4.2 Hazardous Materials Results

There were no hazardous materials observed exclusive of ACM and LBP. No tables or photographs were applicable. If suspect hazardous materials are encountered they should be removed, handled, and disposed of or stored in accordance with applicable federal, state, and local regulations.

5.0 Findings and Recommendations

5.1 Asbestos Survey

Based on the visual inspection and bulk sample analysis results, the above ground steam lines (blue, green, orange, yellow, and white lines) while assessed individually, were observed to be similar and consist of similar HAs. The piping wrap was foam or fiberglass, the elbows were ACM, black wrap and cloth wraps were ACM. The aboveground steam line HSAs were the same for the main base and Ohio and Iowa Streets. All instances of elbows, black wrap, and cloth wraps should be considered ACM on all above ground steam lines, with the exception of the materials underneath the Farragut Avenue Bridge. Materials underneath the Farragut Avenue Bridge are identified in the "Limited Environmental Survey, Steam Lines Installed Post 1991, Naval Station Great Lakes, Great Lakes, Illinois" prepared by EDI, and are not ACM. Please reference above-listed environmental survey for detailed information on the materials underneath the Farragut Avenue Bridge.

Any asbestos-containing material that will be disturbed during planned demolition must be abated in accordance with federal, state and local regulations.

5.2 Paint Survey

LBP was detected on metal and concrete supports. Abatement is recommended based on these results. LBP that will be disturbed during planned demolition must be handled in accordance with federal, state and local regulations including proper waste disposal and worker protection in accordance with EPA and OSHA regulations.

5.3 Hazardous Materials Survey

No suspect hazardous materials were identified in the environmental survey of the Above Ground Steam Lines.

6.0 Limitations

This report is based solely on the scope of work provided and the assumptions identified in this limited survey. Any new information that becomes available concerning the subject site should be provided to EDI so that our evaluations, conclusions, and recommendations may be revised and modified accordingly. All materials tested are assumed homogeneous throughout the proposed renovation areas. EDI staff walked the site area to identify accessible areas to be included in the limited survey. Every attempt was made to thoroughly evaluate and assess the presence and condition of suspect asbestos and lead containing materials. The insulation materials identified on the pipes were classified as being homogenous across pits and lines. EDI did not perform destructive sampling practices and suspect materials may exist within inaccessible areas. Any suspect material identified during renovation that is not specifically listed herein should be thoroughly assessed, sampled, and analyzed prior to disturbance, in accordance with applicable regulatory standards.

The findings and conclusions in this report are not specific certainties; rather they are probabilities based on professional judgment concerning the significance of the data collected. EDI claims to represent only the specific findings documented herein and does not claim knowledge of conditions beyond the scope of the limited survey.

The asbestos and lead survey was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the environmental profession under similar conditions. No other warranty or guarantee, express or implied, is included or intended in this Report or otherwise.

This report is intended for the use of the client, subject to the terms and conditions of the contract with NAVFAC.

7.0 Definitions

The following definitions are intended to provide the reader with a better understanding of the terminology used in this report.

Asbestos

The general name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure, are incombustible in air, and are separable into fibers. Asbestos includes the asbesti-form varieties of chrysotile; crocidolite; amosite; anthophyllite; and actinolite.

Asbestos-Containing Material (ACM)

Asbestos- containing material (ACM) is material that is found to contain greater than one percent asbestos content as determined by polarized light microscopy (PLM) analysis (USEPA 560/5085-030a, October 1985).

Accessible Areas

An accessible area of the building is any area that the survey team is permitted to inspect and that can be inspected without the disassembly of complicated mechanical or rigid structural components of the building. Examples of accessible areas of the building are interior floors, walls, ceilings, areas above suspended ceilings, return air shafts (normally), mechanical piping exteriors, and equipment exteriors, etc.

Damaged material

A “damaged” material contains a few water stains or less than one-tenth of insulation with missing jackets and/or crushed insulation or water stains, gouges, punctures, or mars on surface up to one-tenth of the insulation if the damage is evenly distributed or up to one-quarter if the damage is localized.

Inaccessible Areas

An inaccessible area is any area where inspection access is not permitted or requires a considerable amount of mechanical or structural disassembly to inspect. Inaccessible areas normally only investigated prior to renovation or demolition activities. Examples of inaccessible areas are pipe chases behind solid walls, mechanically encased insulation, crawlspaces, or unsafe areas.

Friable Material

A material, that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure is a friable material. Examples of friable materials include: pipe insulation, boiler or tank insulation, or sprayed-on fireproofing.

Homogeneous Area

A homogeneous area is defined as a group of materials that is uniform in texture and appearance, was installed at one time, and is likely to consist of more than one type or formation of material.

Lead-Based Paint (LBP)

Paint or surface coatings that contain lead levels greater than or equal to 1.0 milligram per square centimeter, or more than 0.5% lead by weight.

Lead-Containing Paint (LCP)

Paint or surface coatings that contain lead levels greater than the laboratory detection limit but less than 1.0 milligram per square centimeter (or less than 0.5% by weight). LCPs are not controlled under United States Environmental Protection Agency (USEPA) regulations. However, activities that may disturb LCPs may be regulated under Occupational Safety and Health Administration (OSHA) standards.

Non-friable Material

A material, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable materials may become friable through damage or deterioration. Examples of non-friable materials include: intact floor tile, transite building panels, or well maintained roofing materials.

Significantly Damaged Material

A “significantly damaged” material contains missing jackets on at least one-tenth of the piping or equipment and/or is crushed, heavily gouged, or punctured insulation on at least one-tenth of pipe runs/rises, boilers, tanks, ducts, etc., if the damage is evenly distributed or one-quarter of the damage is localized.

Appendices

Appendix A: Asbestos Summary Tables and Photographs

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, West of Bldg. 11	TSI White Blue Line Elbow	White Insulation	HA1-01	20% Chrysotile	PLM	F	375 elbows and fittings	Good
Above Ground, East of Bldg. 180	TSI White Blue Line Elbow	Tan Insulation	HA1-02	ND	PLM	F		Good
Above Ground, West of Pit 87	TSI White Blue Line Elbow	Tan Insulation	HA1-03	PC 2.5% Chrysotile & PC 2.1% Chrysotile	PLM	F		Good
Above Ground, West of Bldg. 11	Black Wrap Blue Line Elbow	Black Tar	HA2-04	PC Trace Chrysotile	PLM	NF	375 elbows and fittings	Good
Above Ground, West of Pit 87	Black Wrap Blue Line Elbow	Black Tar	HA2-05	10% Chrysotile	PLM	NF		Good
Above Ground, West of Pit 87	Black Wrap Blue Line Elbow	Black Tar	HA2-06	10% Chrysotile	PLM	NF		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, West of Bldg. 11	Black Wrap Blue Line on Fiberglass	Black Tar	HA3-07	20% Chrysotile	PLM	NF	10,100 L.F.	Good
Above Ground, South of Bldg. 73	Black Wrap Blue Line on Fiberglass	Black Tar	HA3-08	ND	PLM	NF		Good
Above Ground, West of Pit 87	Black Wrap Blue Line on Fiberglass	Black Tar	HA3-09	20% Chrysotile	PLM	F		Good
Above Ground, Above Bldg. 11B	Black Wrap Yellow Line on Fiberglass	Black Tar	HA4-10	20% Chrysotile	PLM	NF	10,100 L.F.	Good
Above Ground, South of Bldg. 73	Black Wrap Yellow Line on Fiberglass	Black Tar	HA4-11	20% Chrysotile	PLM	NF		Good
Above Ground, West of Pit 87	Black Wrap Yellow Line on Fiberglass	Black Tar	HA4-12	20% Chrysotile	PLM	NF		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, Above Bldg. 11B	TSI Yellow Line Elbow	White Insulation	HA5-13	10% Chrysotile & 10% Amosite	PLM	F	375 elbows and fittings	Good
Above Ground, East of Bldg. 180	TSI Yellow Line Elbow	Tan Insulation	HA5-14	PC 2.1% Chrysotile & 2.5% Amosite	PLM	F		Good
Above Ground, East of Bldg. 180	TSI Yellow Line Elbow	Tan Insulation	HA5-15	ND	PLM	F		Good
Above Ground, Above Bldg. 11B	Black Wrap Yellow Line Elbow	Black Tar	HA6-16	ND	PLM	NF	375 elbows and fittings	Good
Above Ground, South of Bldg. 73	Black Wrap Yellow Line Elbow	Black Tar	HA6-17	ND	PLM	NF		Good
Above Ground, West of Pit 87	Black Wrap Yellow Line Elbow	Black Tar	HA6-18	10% Chrysotile	PLM	NF		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, Above Bldg. 11B	Black Wrap Orange Line on Fiberglass	Brown Tar	HA7-19	20% Chrysotile	PLM	NF	8,400 L.F.	Good
Above Ground, South of Bldg. 73	Black Wrap Orange Line on Fiberglass	Brown Tar	HA7-20	10% Chrysotile	PLM	NF		Good
Above Ground, East of Bldg. 180	Black Wrap Orange Line on Fiberglass	Brown Tar	HA7-21	ND	PLM	NF		Good
Above Ground, Above Bldg. 11B	Black Wrap Orange Line Elbow	Black Tar	HA8-22	ND	PLM	NF	310 elbows and fittings	Good
Above Ground, South of Bldg. 73	Black Wrap Orange Line Elbow	Black Tar	HA8-23	ND	PLM	NF		Good
Above Ground, West of Pit 87	Black Wrap Orange Line Elbow	Black Tar	HA8-24	10% Chrysotile	PLM	NF		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, Above Bldg. 11B	TSI Orange Line Elbow	White Insulation	HA9-25	20% Chrysotile	PLM	F	310 elbows and fittings	Good
Above Ground, East of Bldg. 180	TSI Orange Line Elbow	Tan Insulation	HA9-26	ND	PLM	F		Good
Above Ground, East of Bldg. 180	TSI Orange Line Elbow	Tan Insulation	HA9-27	ND	PLM	F		Good
Above Ground, Above Bldg. 11B	Black Tar Patch Orange Line Elbow	Black Tar Patch	HA10-28	ND	PLM	NF	300 S.F.	Good
Above Ground, West of Pit 87	Black Tar Patch Yellow Line Elbow	Black Tar Patch	HA10-29	ND	PLM	NF		Good
Above Ground, West of Pit 87	Black Tar Patch Blue Line Elbow	Black Tar Patch	HA10-30	ND	PLM	NF		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, Above Bldg. 11B	Black Wrap Green Line on Fiberglass	Black Tar Paper	HA11-31	20% Chrysotile	PLM	NF	8,400 L.F..	Good
Above Ground, South of Bldg. 73	Black Wrap Green Line on Fiberglass	Black Tar	HA11-32	ND	PLM	NF		Good
Above Ground, West of Pit 87	Black Wrap Green Line on Fiberglass	Black Tar Paper	HA11-33	10% Chrysotile	PLM	NF		Good
Above Ground, West of Bldg. 12	Cloth Wrap Fitting on Blue Line	Tan Insulation	HA12-34	95% Chrysotile	PLM	F	50 L.F.	Good
Above Ground, South of Bldg. 190	Cloth Wrap Fitting on Blue Line	White Insulation	HA12-35	95% Chrysotile	PLM	F		Good
Above Ground, South of Bldg. 173	Cloth Wrap Fitting on Blue Line	Tan Insulation	HA12-36	95% Chrysotile	PLM	F		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, West of Bldg. 12	Cloth Wrap Fitting on Green Line	White Insulation	HA13-37	95% Chrysotile	PLM	F	50 L.F.	Good
Above Ground, South of Bldg. 190	Cloth Wrap Fitting on Green Line	White Insulation	HA13-38	95% Chrysotile	PLM	F		Good
Above Ground, South of Bldg. 173	Cloth Wrap Fitting on Green Line	White Insulation	HA13-39	95% Chrysotile	PLM	F		Good
Above Ground, West of Bldg. 12	Cloth Wrap Fitting on Yellow Line	White Insulation	HA14-40	95% Chrysotile	PLM	F	50 L.F.	Good
Above Ground, South of Bldg. 190	Cloth Wrap Fitting on Yellow Line	White Insulation	HA14-41	95% Chrysotile	PLM	F		Good
Above Ground, South of Bldg. 173	Cloth Wrap Fitting on Yellow Line	White Insulation	HA14-42	95% Chrysotile	PLM	F		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, West of Bldg. 12	Cloth Wrap Fitting on Orange Line	White Insulation	HA15-43	95% Chrysotile	PLM	F	50 L.F.	Good
Above Ground, South of Bldg. 190	Cloth Wrap Fitting on Orange Line	White Insulation	HA15-44	95% Chrysotile	PLM	F		Good
Above Ground, South of Bldg. 173	Cloth Wrap Fitting on Orange Line	White Insulation	HA15-45	95% Chrysotile	PLM	F		Good
Above Ground, East of Bldg. 180	TSI Tan Green Line Elbow	Tan Insulation	HA16-46	PC 3.1% Chrysotile & PC 1.2% Amosite	PLM	F	270 elbows	Good
Above Ground, West of Pit 87	TSI Tan Green Line Elbow	Tan Insulation	HA16-47	PC 1.5% Chrysotile & PC 2.1% Amosite	PLM	F		Good
Above Ground, East of Bldg. 180	TSI Tan Green Line Elbow	Tan Insulation	HA16-48	ND	PLM	F		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1. Asbestos Sample Summary Table

Above Ground Steam Lines

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground, Near Bldg. 11G	TSI Over Fiberglass White Line Pipe Emergence	Tan Insulation	HA17-49	20% Chrysotile	PLM	F	600 L.F.	Good
Above Ground, Near Bldg. 11G	TSI Over Fiberglass White Line Pipe Emergence	Tan Insulation	HA17-50	20% Chrysotile	PLM	F		Good
Above Ground, Near Bldg. 11G	TSI Over Fiberglass White Line Pipe Emergence	Tan Insulation	HA17-51	20% Chrysotile	PLM	F		Good
Above Ground, Near Bldg. 11G	Patching White Line	White/Black Insulation	HA18-52	PC 1.5% Chrysotile	PLM	F	5 S.F.	Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1a. Asbestos Sample Summary Table – Nov. 2011

Above Ground Steam Lines – Iowa & Ohio Streets

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground Steam Lines, Ohio Street	TSI Runs, Blue Line ~18" pipe	Black/Grey Wrap over Fiberglass	TSIR1-001	15% CH	PLM	F	4,000 linear feet	Good
Above Ground Steam Lines, Ohio Street	TSI Runs, Blue Line ~18" pipe	Black/Grey Wrap over Fiberglass	TSIR1-003	50% CH	PLM	F		Good
Above Ground Steam Lines, Ohio Street	TSI Runs, Blue Line ~18" pipe	Black/Grey Wrap over Fiberglass	TSIR1-005	25% CH	PLM	F		Good
Above Ground Steam Lines, Ohio Street	TSI Runs, Yellow Line ~12" pipe	Black/Grey Wrap over Fiberglass	TSIR2-002	50% CH	PLM	F	4,000 linear feet	Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1a. Asbestos Sample Summary Table – Nov. 2011

Above Ground Steam Lines – Iowa & Ohio Streets

Naval Station Great Lakes

Great Lakes, Illinois

Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground Steam Lines, Ohio Street	TSI Runs, Yellow Line ~12" pipe	Black/Grey Wrap over Fiberglass	TSIR2-004	50% CH	PLM	F	2,000 linear feet	Good
Above Ground Steam Lines, Ohio Street	TSI Runs, Yellow Line ~12" pipe	Black/Grey Wrap over Fiberglass	TSIR2-006	35% CH	PLM	F		Good
Above Ground Steam Lines, Iowa Street	TSI Runs, Orange Line ~12" pipe	Black/Grey Wrap over Fiberglass	TSIR3-007	40% CH	PLM	F		Good
Above Ground Steam Lines, Iowa Street	TSI Runs, Orange Line ~12" pipe	Black/Grey Wrap over Fiberglass	TSIR3-009	35% CH	PLM	F		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Table 1a. Asbestos Sample Summary Table – Nov. 2011

Above Ground Steam Lines – Iowa & Ohio Streets

Naval Station Great Lakes

Great Lakes, Illinois

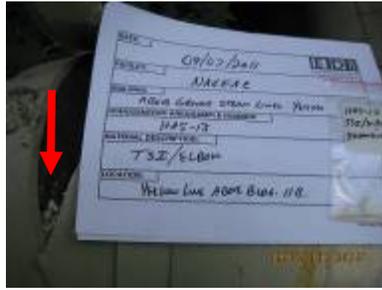
Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (S.F.) Linear feet (L.F.)	Condition
Above Ground Steam Lines, Iowa Street	TSI Runs, Orange Line ~12" pipe	Black/Grey Wrap over Fiberglass	TSIR3-011	40% CH	PLM	F	2,000 linear feet	Good
Above Ground Steam Lines, Iowa Street	TSI Runs, Green Line ~18" pipe	Black/Grey Wrap over Fiberglass	TSIR4-008	45% CH	PLM	F		Good
Above Ground Steam Lines, Iowa Street	TSI Runs, Green Line ~18" pipe	Black/Grey Wrap over Fiberglass	TSIR4-010	30% CH	PLM	F		Good
Above Ground Steam Lines, Iowa Street	TSI Runs, Green Line ~18" pipe	Black/Grey Wrap over Fiberglass	TSIR4-012	40% CH	PLM	F		Good

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
ND: Not Detected	AC: Actinolite AM: Amosite AN: anthophyllite CH: Chrysotile CR: Crocidilite TR: Tremolite	PLM: Polarized Light Microscopy PC: Point Count Method TEM: Transmission Electron Microscopy	F: Friable NF: Non- Friable Category I NF-II: Non-Friable Category II	Good: Little to no damage Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

Naval Station Great Lakes
 Photo Log of Above Ground Steam Lines
 September 7-9, 2011
 Photographed by Jason Janssen



HA1: Blue line, elbow, TSI, white



HA5: Yellow line, elbow, TSI



HA9: Orange line, elbow, TSI



HA2: Blue line, elbow, black wrap



HA6: Yellow line, elbow, black wrap



HA10: Black Tar Patch



HA3: Blue line, black wrap on fiberglass run



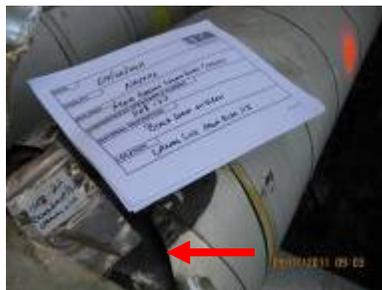
HA7: Orange line, black wrap on fiberglass run



HA11: Green line, black wrap on fiberglass run



HA4: Yellow line, black wrap on fiberglass run



HA8: Orange line, elbow, black wrap



View of blue, yellow, orange, and green lines (left to right) above building 11B

Naval Station Great Lakes
 Photo Log of Above Ground Steam Lines
 September 7-9, 2011
 Photographed by Jason Janssen



View of green, orange, yellow, & blue lines looking south from building 11B



HA14: Yellow line, fitting, cloth wrap



View of end of elevated lines along Crosley Dr. north of Sampson St. Bridge



View of 2 inch pipes above building 11B with non-suspect materials.



HA15: Orange line, fitting, cloth wrap



View of blue, yellow, green, and orange lines at creek crossing along Crosley Dr.



HA12: Blue line, fitting, cloth wrap



Start of elevated green, orange, yellow, and blue lines along Crosley Dr.



View of lines ascending slope from creek towards building 180



HA13: Green line, fitting, cloth wrap



Continuation of elevated lines along Crosley Dr.



HA16: Green line, elbow, TSI

Naval Station Great Lakes
 Photo Log of Above Ground Steam Lines
 September 7-9, 2011
 Photographed by Jason Janssen



View of green and orange lines along Iowa St. between pits 241 & 243



View of white line origination in building 11



View of white line and 2 other lines continuing in larger steel pipe



View of green and orange lines along Iowa St. between pits 247 & 248



View of white line exiting building 11 with 2 other non-steam lines



View of white line and 2 other lines continuing in larger steel pipe



View of blue and yellow lines along Ohio St. south of pit 400



View of white line exiting building 11 with 2 other lines into larger steel pipe



View of white line and 2 other lines continuing in larger steel pipe



View of blue and yellow lines along Ohio St. south of pit 400



View of white line and 2 other lines continuing in larger steel pipe



View of white line and 2 others emerging from larger pipe west of building 11G

Naval Station Great Lakes
Photo Log of Above Ground Steam Lines
September 7-9, 2011
Photographed by Jason Janssen



View of white line continuing north after emergence from larger pipe



Continuation of white line north to building 11E; No suspect materials on line



HA17: White line, TSI over fiberglass, at emergence from larger pipe



HA18: White line, patching, at emergence from larger pipe.

Naval Station Great Lakes
 Photo Log of Above Ground Steam Lines
 November 21, 2011
 Photographed by Gary Flentge



TSIR1-001: BLUE LINE,
 TSI RUNS, BLACK/GREY
 WRAP OVER
 FIBERGLASS



TSIR2-002: YELLOW
 LINE, TSI RUNS,
 BLACK/GREY WRAP
 OVER FIBERGLASS



TSIR2-004: YELLOW
 LINE, TSI RUNS,
 BLACK/GREY WRAP
 OVER FIBERGLASS



TSIR1-001: BLUE LINE,
 TSI RUNS, BLACK/GREY
 WRAP OVER
 FIBERGLASS



TSIR1-003: BLUE LINE,
 TSI RUNS, BLACK/GREY
 WRAP OVER
 FIBERGLASS



TSIR2-004: YELLOW
 LINE, TSI RUNS,
 BLACK/GREY WRAP
 OVER FIBERGLASS



TSIR2-002: YELLOW
 LINE, TSI RUNS,
 BLACK/GREY WRAP
 OVER FIBERGLASS



TSIR1-003: BLUE LINE,
 TSI RUNS, BLACK/GREY
 WRAP OVER
 FIBERGLASS



TSIR2-004: YELLOW
 LINE, TSI RUNS,
 BLACK/GREY WRAP
 OVER FIBERGLASS



TSIR2-002: YELLOW
 LINE, TSI RUNS,
 BLACK/GREY WRAP
 OVER FIBERGLASS



TSIR1-003: BLUE LINE,
 TSI RUNS, BLACK/GREY
 WRAP OVER
 FIBERGLASS



TSIR2-006: YELLOW
 LINE, TSI RUNS,
 BLACK/GREY WRAP
 OVER FIBERGLASS

Naval Station Great Lakes
 Photo Log of Above Ground Steam Lines
 November 21, 2011
 Photographed by Gary Flentge



TSIR2-006: YELLOW LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR3-007: ORANGE LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR4-008: GREEN LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR2-006: YELLOW LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR3-007: ORANGE LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR4-008: GREEN LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR1-005: BLUE LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR3-007: ORANGE LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR4-012: GREEN LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR1-005: BLUE LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR4-008: GREEN LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS



TSIR4-012: GREEN LINE, TSI RUNS, BLACK/GREY WRAP OVER FIBERGLASS

Naval Station Great Lakes
Photo Log of Above Ground Steam Lines
November 21, 2011
Photographed by Gary Flentge



TSIR4-012: GREEN LINE,
TSI RUNS, BLACK/GREY
WRAP OVER
FIBERGLASS



TSIR3-011: ORANGE
LINE, TSI RUNS,
BLACK/GREY WRAP
OVER FIBERGLASS



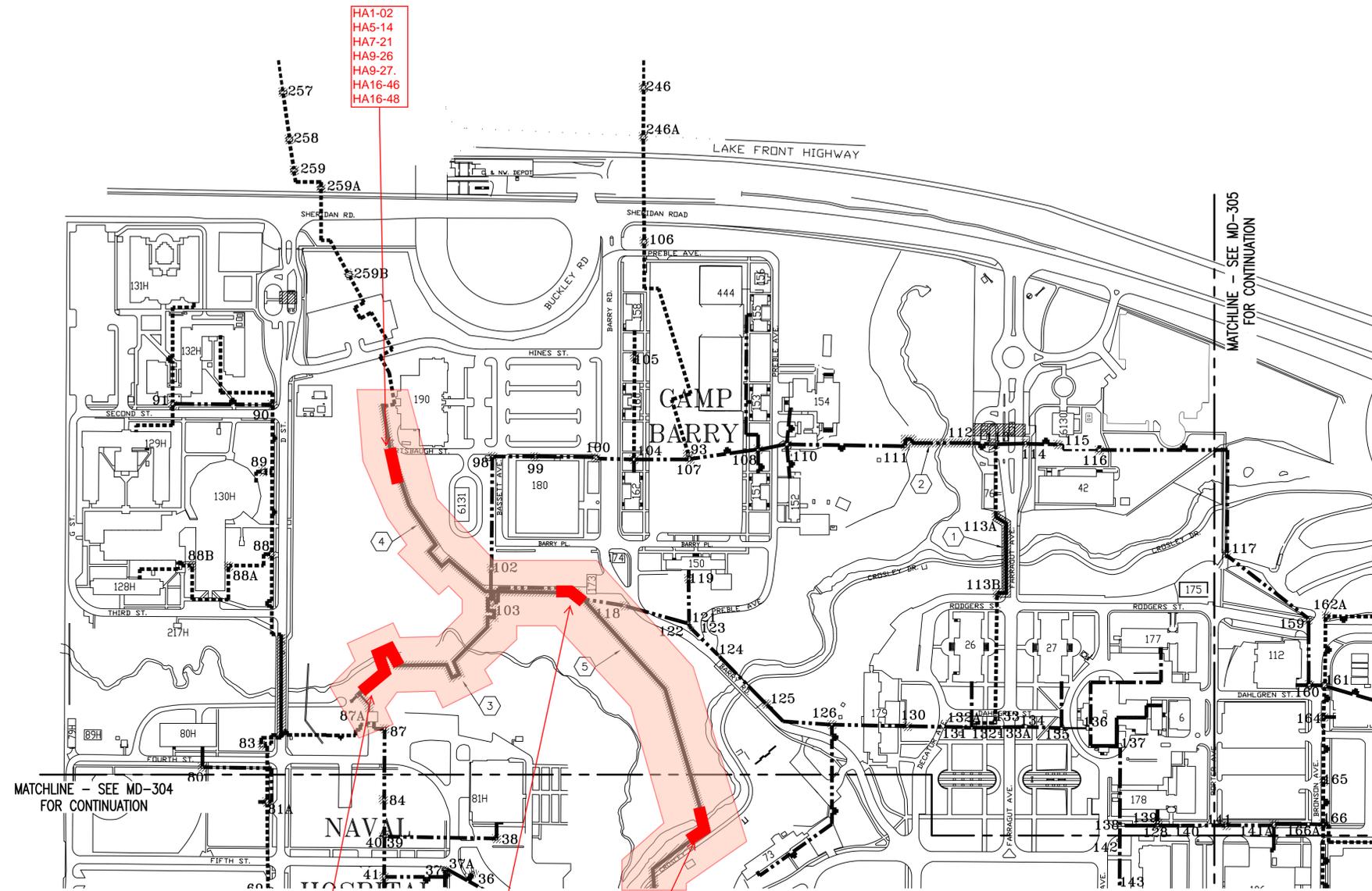
TSIR3-011: ORANGE
LINE, TSI RUNS,
BLACK/GREY WRAP
OVER FIBERGLASS

Appendix B: Asbestos Sample Location Drawings

Drawing 1: EDI Suspect ACM Sample Locations
from Above Ground Steam Lines (Drawing MD-303)



200 0 200 400
SCALE: 1"=200'



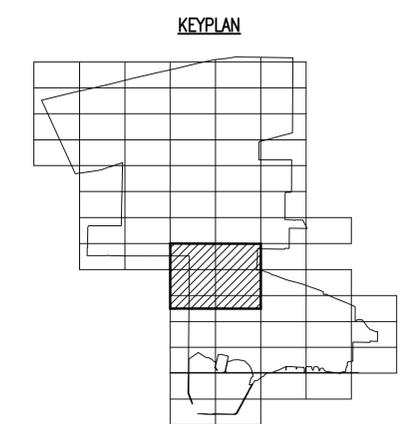
- GENERAL NOTES:
- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
 - SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

- KEYED NOTES:
- DEMOLISH ABOVE GRADE STEAM PIPING SUPPORTED FROM BRIDGE STRUCTURE FROM STEAM PITS 113A TO 113B.
 - DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT FROM STEAM PITS 111 AND 112. DEMOLISH THE STEEL SUPPORT STRUCTURE ASSOCIATED WITH STEAM AND CONDENSATE PIPING BETWEEN STEAM PITS 111 AND 112.
 - ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 87A AND STEAM PIT 103.
 - ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 AND BUILDING 190.
 - ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 AND TO WHERE STEAM PIPING IS ROUTED UNDER MOHAN ROAD.



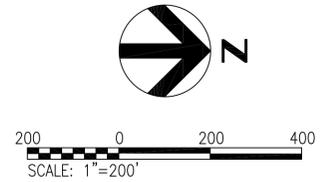
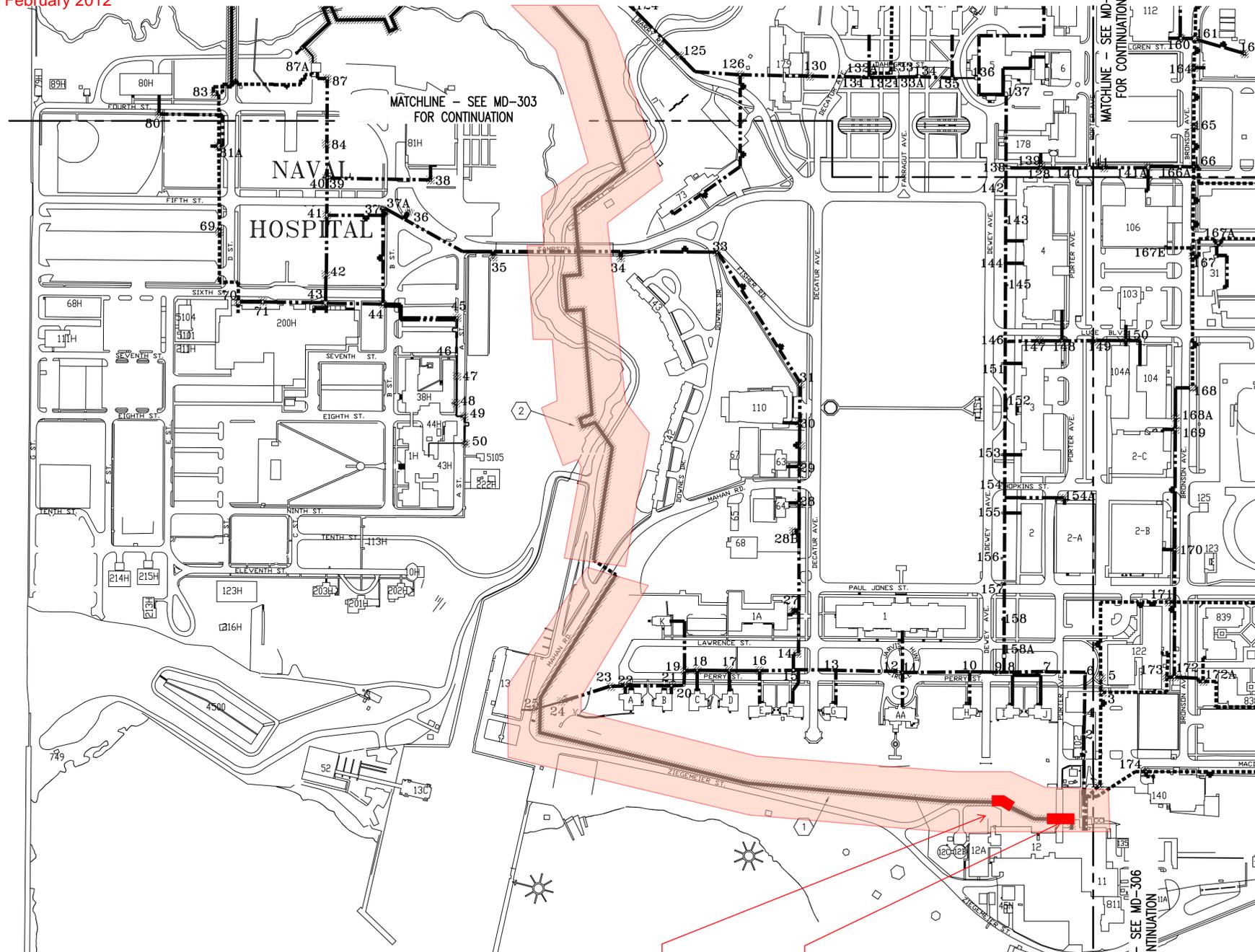
**PRELIMINARY
NOT FOR CONSTRUCTION**

- LEGEND
- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
 - - - INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
 - · · · · INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
 - - - - - INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
 - ▨ INDICATES DEMOLITION
 - X INDICATES STEAM PIT TO BE DEMOLISHED



FILE NAME: C:\paworking\csmo\0867328\MD-303.dwg LAYOUT NAME: Plot_PLOTTED: Wednesday, June 15, 2011 - 11:27am USER: itemk

APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES XXX	DRW XXX	CHK XXX
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH	XXX	
<<DD>>		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL FACILITIES ENGINEERING COMMAND	MIDWEST	
PUBLIC WORKS DEPARTMENT	NSCL GREAT LAKES, ILLINOIS	
NAVAL STATION GREAT LAKES	GREAT LAKES, IL	
P-816 STEAM DECENTRALIZATION B-11		
SITE PIPING PLAN		
SCALE:	AS NOTED	
PROJECT NO.:	#####	
CONSTR. CONTR. NO.	#####	
NAVFAC DRAWING NO.	#####	
SHEET #	OF #	
MD-303		
DRAWFORM REVISION: 10 MARCH 2009		

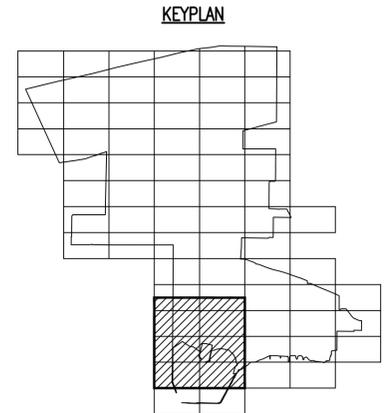


- GENERAL NOTES:
- DIRECT BURIED PIPING, PIPING IN CHASES AND PIPING IN TUNNEL TO BE ABANDONED IN PLACE.
 - SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

- KEYED NOTES:
- ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED FROM B-11 TO WHERE STEAM PIPING IS ROUTED UNDER MAHAN ROAD.
 - ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 PIT AND TO WHERE STEAM PIPING IS ROUTED UNDER MAHAN ROAD.

- | | |
|---------|-----------------|
| HA12-34 | HA1-01 |
| HA13-37 | HA2-04 |
| HA14-40 | HA3-07 |
| HA15-43 | HA4-10 |
| | HA5-13 |
| | HA6-16 |
| | HA7-19 |
| | HA8-22 |
| | HA9-29 |
| | HA10-28 |
| | HA11-31 |
| | HA17-49, 50, 51 |
| | HA18-52 |

- LEGEND
- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
 - INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
 - INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
 - INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
 - INDICATES DEMOLITION
 - INDICATES STEAM PIT TO BE DEMOLISHED



<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC WORKS DEPARTMENT</p> <p>NAVAL FACILITIES ENGINEERING COMMAND ~ MIDWEST INSL. GREAT LAKES, ILLINOIS</p> <p>NAVAL STATION GREAT LAKES GREAT LAKES, IL</p> <p>P-816 STEAM DECENTRALIZATION B-11</p> <p>SITE PIPING PLAN</p>	<p>APPROVED: _____</p> <p>FOR COMMANDER NAVFAC</p> <p>ACTIVITY</p> <p>SATISFACTORY TO DATE</p> <p>DES XXX DRW XXX CHK XXX</p> <p><<PM/DM>></p> <p>BRANCH MANAGER</p> <p>CHIEF ENG/ARCH XXX</p> <p><<DD>></p> <p>SCALE: AS NOTED</p> <p>PROJECT NO.: #####</p> <p>CONSTR. CONTR. NO. #####</p> <p>NAVFAC DRAWING NO. #####</p> <p>SHEET ## OF ##</p> <p>MD-304</p> <p><small>DRAWING REVISION: 10 MARCH 2009</small></p>
---	--

FILE NAME: C:\paworking\csmo\0867328\MD-304.dwg LAYOUT NAME: Plot PLOTTED: Wednesday, June 15, 2011 - 11:28am USER: lemke



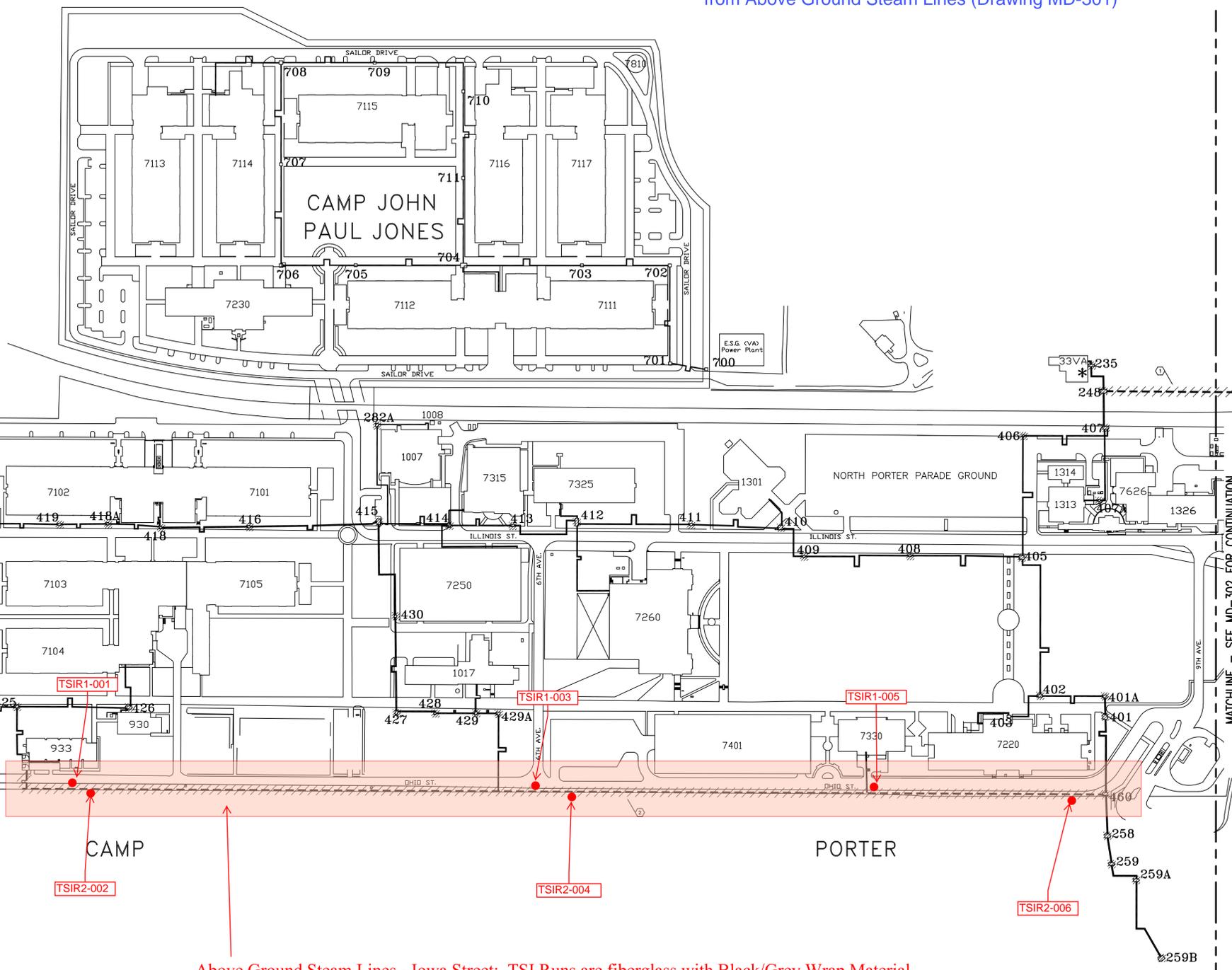
200 0 200 400
SCALE: 1"=200'

GENERAL NOTES:

- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
- SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

KEYED NOTES:

- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 248 TO STEAM PIT 247.
- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 460 TO BUILDING 909.

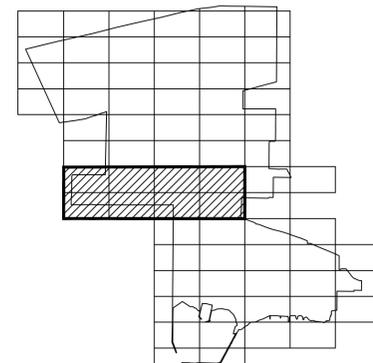


Above Ground Steam Lines - Iowa Street: TSI Runs are fiberglass with Black/Grey Wrap Material
~18" - Blue Demarcation; TSIR1
~12" - Yellow Demarcation; TSIR2

LEGEND

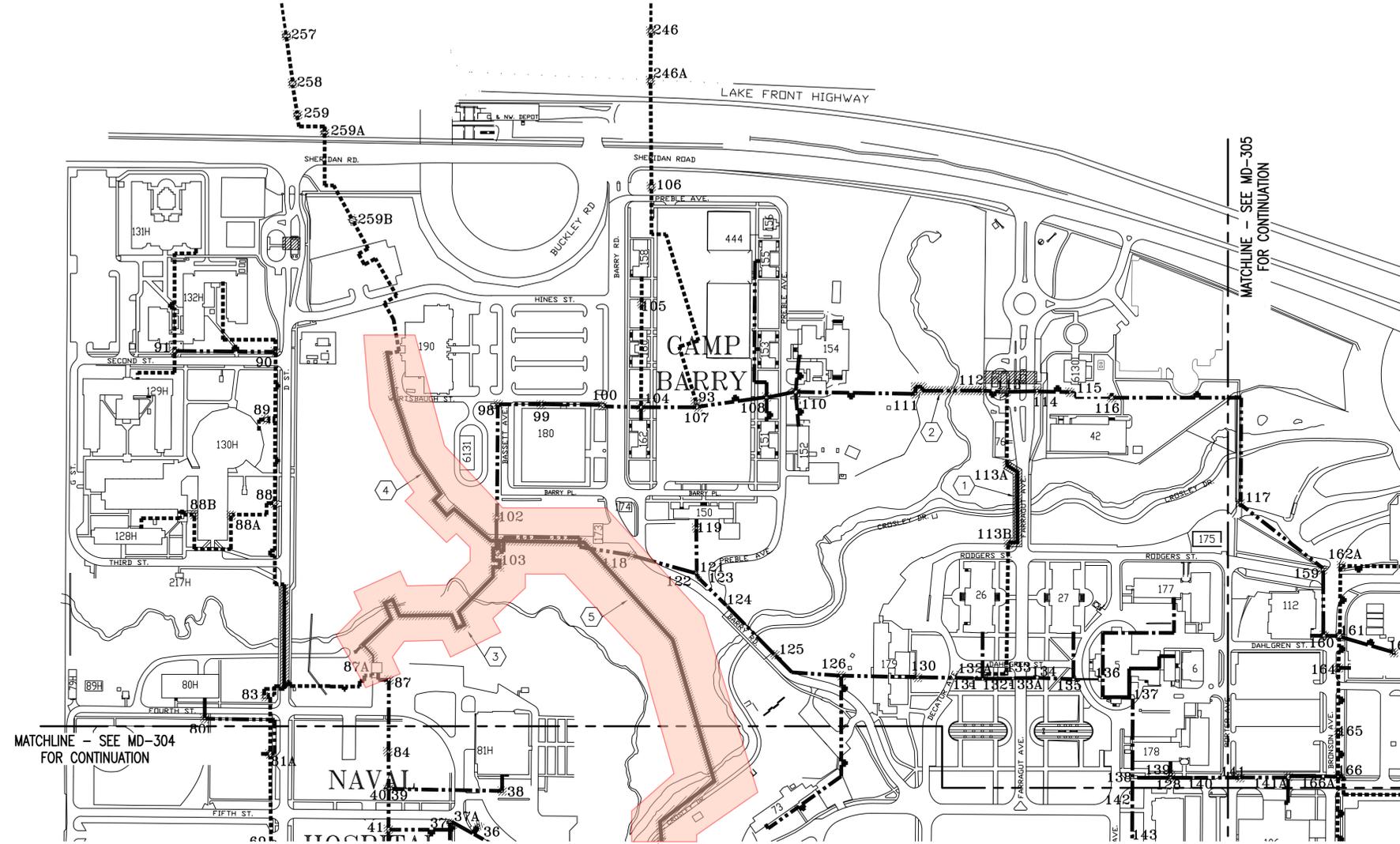
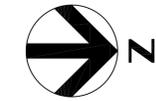
- INDICATES UNDERGROUND STEAM AND CONDENSATE PIPING
- - - - - INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING
- /////// INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING TO BE DEMOLISHED
- XXX INDICATES STEAM PIT TO BE DEMOLISHED

KEYPLAN



APPROVED	DATE	APPR
FOR COMMANDER NAVFAC	ACTIVITY	35% DESIGN SUBMITTAL
SATISFACTORY TO	DATE	
DES XXX	DRW XXX	CHK XXX
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH	XXX	
<<DD>>		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL FACILITIES ENGINEERING COMMAND	MIDWEST	
PUBLIC WORKS DEPARTMENT	INSL GREAT LAKES, ILLINOIS	
NAVAL STATION GREAT LAKES	GREAT LAKES, IL	
P-816 STEAM DECENTRALIZATION B-11		
SITE PIPING PLAN		
SCALE:	AS NOTED	
PROJECT NO.:	#####	
CONSTR. CONTR. NO.	#####	
NAVFAC DRAWING NO.	#####	
SHEET #	OF #	
MD-301		
DRAWFORM REVISION: 10 MARCH 2009		

Drawing 5: Location Map of Identified ACM Materials
from Above Ground Steam Lines (Drawing MD-303)

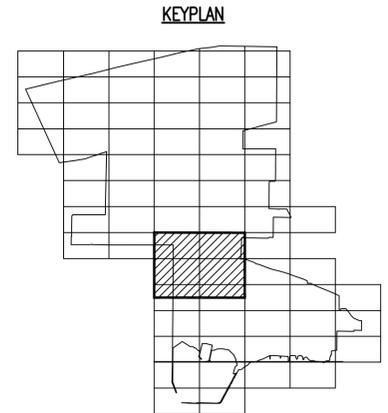


- GENERAL NOTES:**
1. DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
 2. SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

- KEYED NOTES:**
- 1 DEMOLISH ABOVE GRADE STEAM PIPING SUPPORTED FROM BRIDGE STRUCTURE FROM STEAM PITS 113A TO 113B.
 - 2 DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT FROM STEAM PITS 111 AND 112. DEMOLISH THE STEEL SUPPORT STRUCTURE ASSOCIATED WITH STEAM AND CONDENSATE PIPING BETWEEN STEAM PITS 111 AND 112.
 - 3 ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 87A AND STEAM PIT 103.
 - 4 ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 AND BUILDING 190.
 - 5 ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 AND TO WHERE STEAM PIPING IS ROUTED UNDER MOHAN ROAD.

Aboveground Steam Lines: ACM Included elbows, black wrap, cloth wrap
Pipe wrap was foam or fiberglass - 4 lines (Blue, Yellow, Orange, and Green Demarcations) HAS similar across all aboveground steam lines.

- LEGEND**
- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
 - - - INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
 - · · · · INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
 - · - · - INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
 - ▨ INDICATES DEMOLITION
 - X INDICATES STEAM PIT TO BE DEMOLISHED

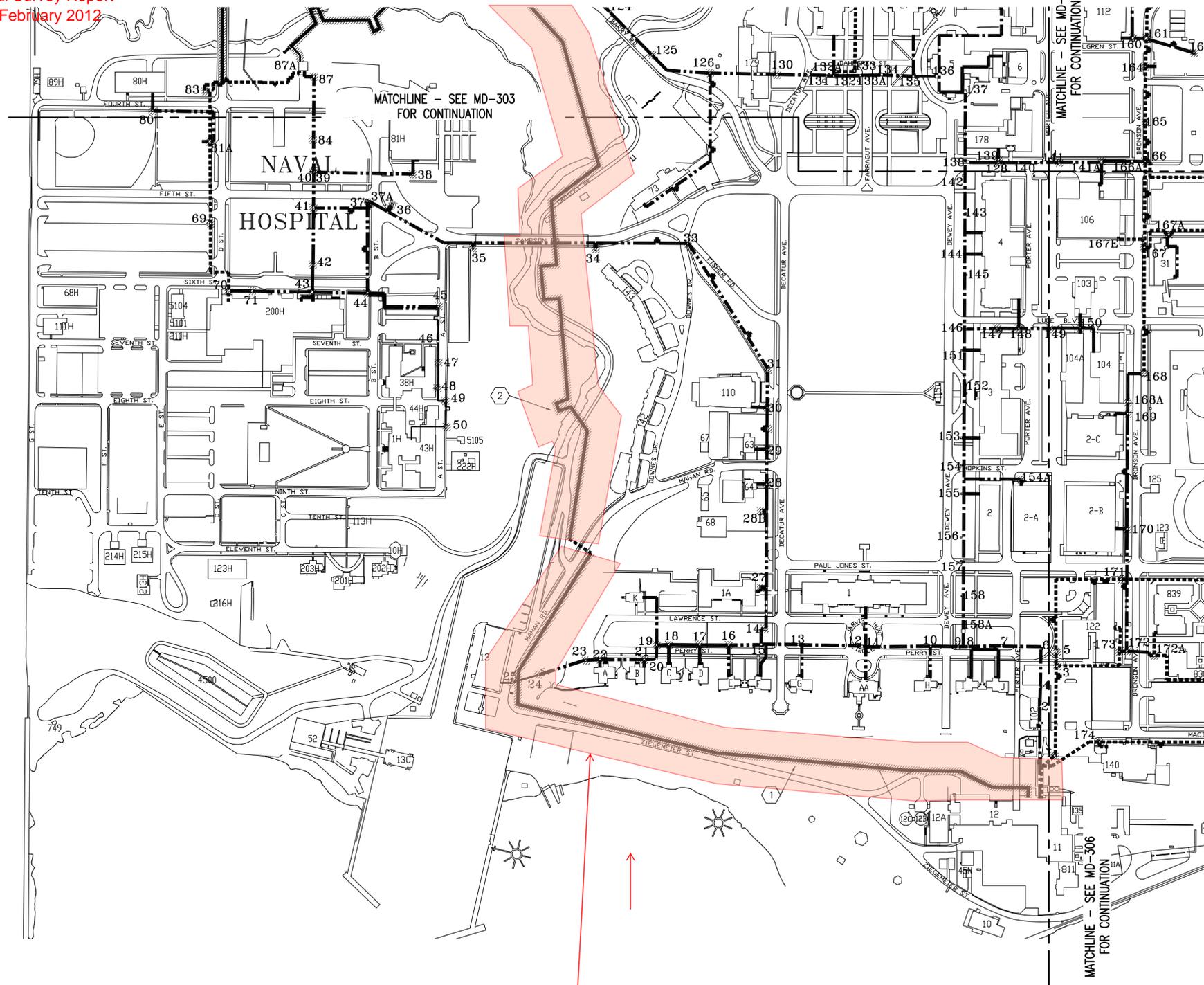


APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES XXX	DRW XXX	CHK XXX
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH	XXX	
<<DD>>		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL FACILITIES ENGINEERING COMMAND	MIDWEST	
PUBLIC WORKS DEPARTMENT	INSR. GREAT LAKES, ILLINOIS	
NAVAL STATION GREAT LAKES	GREAT LAKES, IL	
	P-816 STEAM DECENTRALIZATION B-11	
	SITE PIPING PLAN	
SCALE:	AS NOTED	
PROJECT NO.:	#####	
CONSTR. CONTR. NO.	#####	
NAVFAC DRAWING NO.	#####	
SHEET #	OF #	
MD-303		
<small>DRAWFORM REVISION: 10 MARCH 2009</small>		

FILE NAME: C:\paworking\csmo\0867328\MD-303.dwg LAYOUT NAME: Plot_PLOTTED: Wednesday, June 15, 2011 - 11:27am USER: itemk

Report: Limited Environmental Survey Report
Above Ground Steam Lines, February 2012

Drawing 6: Location Map of Identified ACM Materials
from Above Ground Steam Lines (Drawing MD-304)

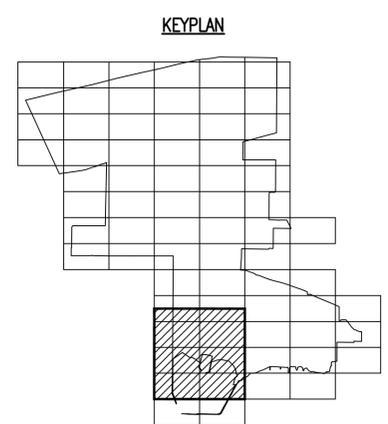


Above Ground Steam Lines: ACM included elbows, black wrap, and cloth wrap
Piping wrap was foam or fiberglass - 4 lines HAS similar across all Aboveground Steam Lines.

- LEGEND
- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
 - INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
 - INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
 - INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
 - INDICATES DEMOLITION
 - INDICATES STEAM PIT TO BE DEMOLISHED

- GENERAL NOTES:
1. DIRECT BURIED PIPING, PIPING IN CHASES AND PIPING IN TUNNEL TO BE ABANDONED IN PLACE.
 2. SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

- KEYED NOTES:
- 1 ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED FROM B-11 TO WHERE STEAM PIPING IS ROUTED UNDER MAHAN ROAD.
 - 2 ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 PIT AND TO WHERE STEAM PIPING IS ROUTED UNDER MAHAN ROAD.



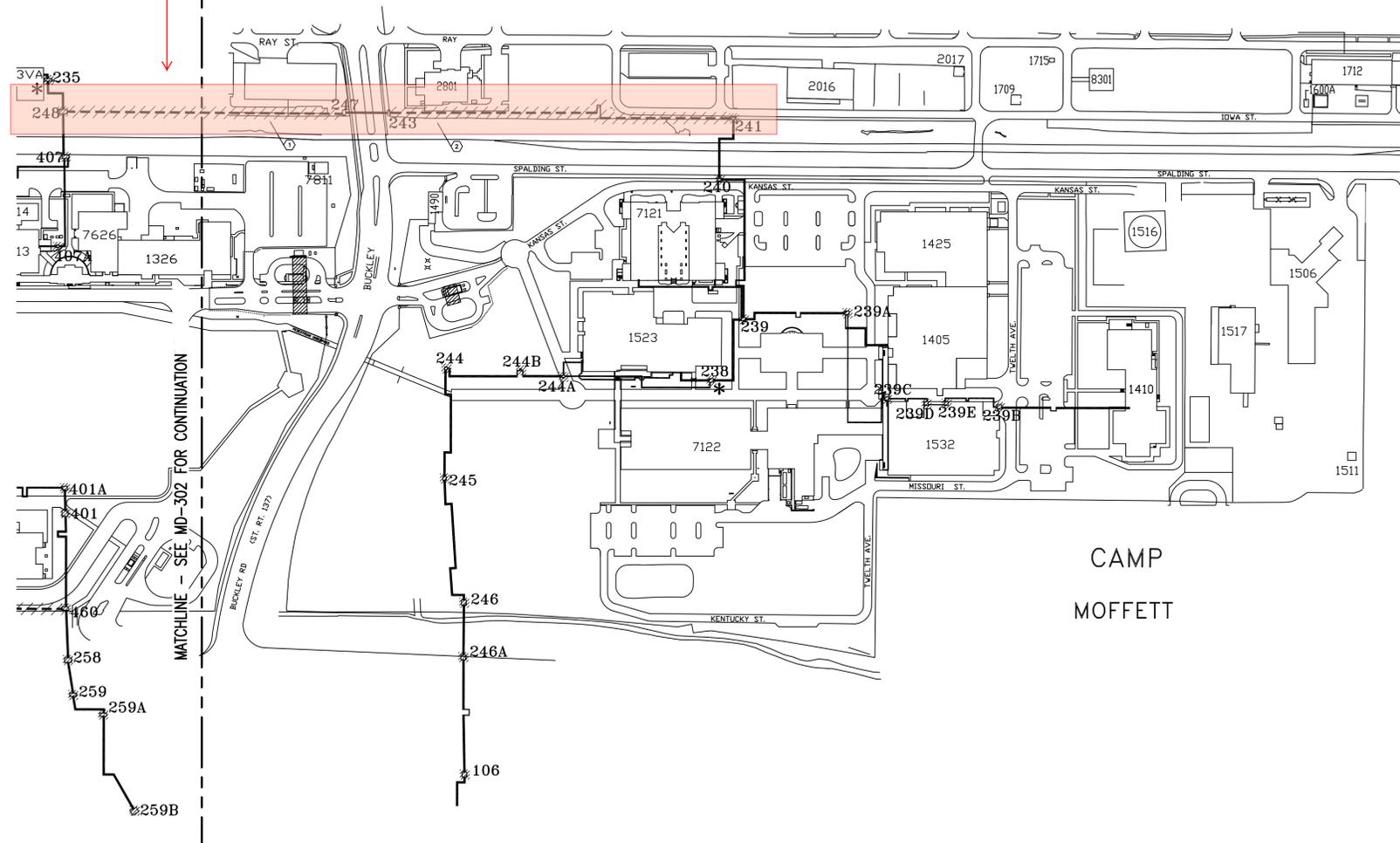
FILE NAME: C:\paworking\jomo\0867328\MD-304.dwg LAYOUT NAME: Plot PLOTTED: Wednesday, June 15, 2011 - 11:28am USER: lemke

	<p>PRELIMINARY NOT FOR CONSTRUCTION</p>
<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC WORKS DEPARTMENT</p>	
<p>NAVAL FACILITIES ENGINEERING COMMAND ~ MIDWEST NSCL GREAT LAKES, ILLINOIS NAVAL STATION GREAT LAKES GREAT LAKES, IL</p>	
<p>P-816 STEAM DECENTRALIZATION B-11 SITE PIPING PLAN</p>	
<p>SCALE: AS NOTED PROJECT NO.: ##### CONSTR. CONTR. NO.: ##### NAVFAC DRAWING NO.: ##### SHEET ## OF ##</p>	
<p>MD-304 DRAWING REVISION: 10 MARCH 2009</p>	



200 0 200 400
SCALE: 1"=200'

Aboveground Steam Lines: ACM included elbows, black wrap, and cloth wrap
Piping wrap was foam or fiberglass - 4 lines HAs similar across all Aboveground Steam lines.



- GENERAL NOTES:
- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
 - SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

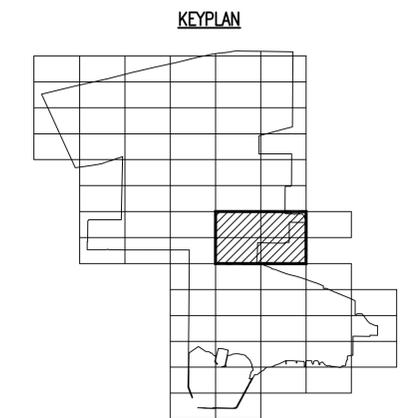
- KEYED NOTES:
- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 248 TO STEAM PIT 247.
 - DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 243 TO STEAM PIT 241.



**PRELIMINARY
NOT FOR CONSTRUCTION**

LEGEND

- INDICATES UNDERGROUND STEAM AND CONDENSATE PIPING
- - - - - INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING
- ////// INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING TO BE DEMOLISHED
- ☒ INDICATES STEAM PIT TO BE DEMOLISHED



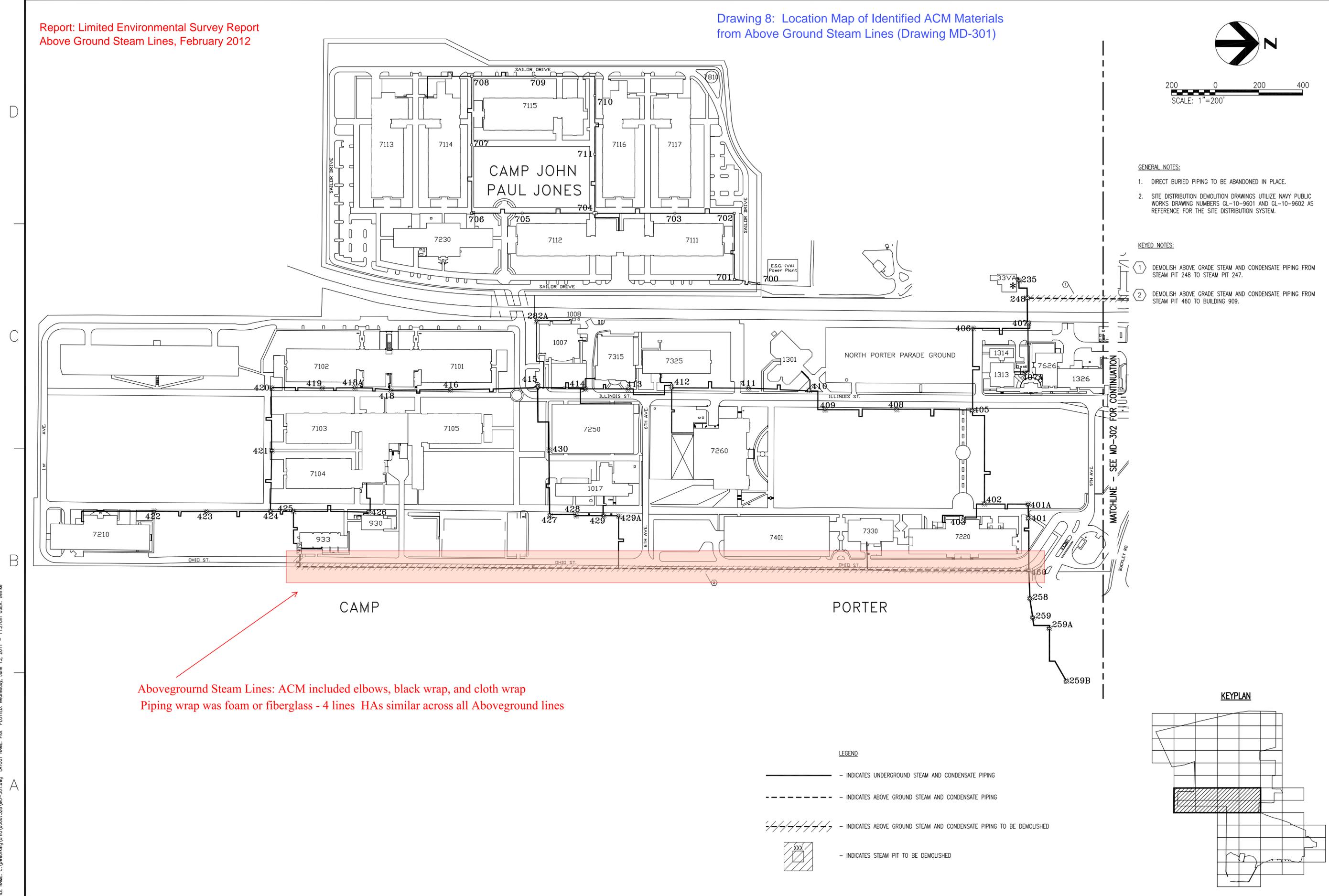
FILE NAME: C:\paworking\csmo\0865328\MD-302.dwg LAYOUT NAME: Pkt PLOTTED: Wednesday, June 15, 2011 - 11:27am USER: lemke

APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES XXX	DRW XXX	CHK XXX
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH	XXX	
<<OO>>		
DEPARTMENT OF THE NAVY		
NAVAL FACILITIES ENGINEERING COMMAND		
NAVAL FACILITIES ENGINEERING COMMAND ~ MIDWEST		
PUBLIC WORKS DEPARTMENT		
NAVAL STATION GREAT LAKES		
GREAT LAKES, IL		
P-816 STEAM DECENTRALIZATION B-11		
SITE PIPING PLAN		
SCALE: AS NOTED		
PROJECT NO.: #####		
CONSTR. CONTR. NO.		
#####		
NAVFAC DRAWING NO.		
#####		
SHEET # OF #		
MD-302		
DRAWFORM REVISION: 10 MARCH 2009		

D
C
B
A

FILE NAME: C:\pawaworking\csmo\0865328\MD-301.dwg PLOT DATE: Wednesday, June 15, 2011 11:27am USER: lsmk

1 2 3 4 5



- GENERAL NOTES:**
- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
 - SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.
- KEYED NOTES:**
- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 248 TO STEAM PIT 247.
 - DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 460 TO BUILDING 909.

Aboveground Steam Lines: ACM included elbows, black wrap, and cloth wrap
Piping wrap was foam or fiberglass - 4 lines HAs similar across all Aboveground lines

- LEGEND**
- INDICATES UNDERGROUND STEAM AND CONDENSATE PIPING
 - - - - - INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING
 - ////// INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING TO BE DEMOLISHED
 - XXX INDICATES STEAM PIT TO BE DEMOLISHED

	DATE APPR
	SUBMITTAL DESCRIPTION 35% DESIGN
	
PRELIMINARY NOT FOR CONSTRUCTION	
A/E INFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES XXX DRW XXX CHK XXX	
<<PM/DM>>	
BRANCH MANAGER	
CHIEF ENG/ARCH XXX	
<<OO>>	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC WORKS DEPARTMENT NAVAL STATION GREAT LAKES GREAT LAKES, IL	
P-816 STEAM DECENTRALIZATION B-11 SITE PIPING PLAN	
SCALE: AS NOTED	
PROJECT NO.: #####	
CONSTR. CONTR. NO. #####	
NAVFAC DRAWING NO. #####	
SHEET ## OF ##	
MD-301 DRAWFORM REVISION: 10 MARCH 2009	

Appendix C: Asbestos Laboratory Results and Certifications



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427512	Description / Location: White Insulation			
Client No.: HA1-01	Blue Line Elbow West Of Bldg.11			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	None Detected	None Detected	80

Lab No.: 4427513	Description / Location: Tan Insulation			
Client No.: HA1-02	Blue Line Elbow East Of Bldg.180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Fibrous Glass	20

Lab No.: 4427514	Description / Location: Tan Insulation			
Client No.: HA1-03	Blue Line Elbow West Of Pit 87			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 2.5	Chrysotile	70	Fibrous Glass	PC 25.4
PC 2.1	Amosite			

Lab No.: 4427515	Description / Location: Black Tar			
Client No.: HA2-04	Blue Line Elbow West Of Bldg. 11			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC Trace	Chrysotile	20	Cellulose	80

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Approved By: 

Date: 9/18/2011

Frank E. Ehrenfeld, III
 Laboratory Director



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	4427516	Description / Location:	Black Tar	
Client No.:	HA2-05		Blue Line Elbow West Of Pit 87	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	None Detected	None Detected	90

Lab No.:	4427517	Description / Location:	Black Tar	
Client No.:	HA2-06		Blue Line Elbow West Of Pit 87	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	20	Cellulose	50
		20	Fibrous Glass	

Lab No.:	4427518	Description / Location:	Black Tar	
Client No.:	HA3-07		Blue Line On Fiberglass West Of Bldg.11	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	10	Cellulose	70

Lab No.:	4427519	Description / Location:	Black Tar	
Client No.:	HA3-08		Blue Line On Fiberglass South Of Bldg.73	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	30	Fibrous Glass	70

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No.: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427520	Description / Location: Black Tar	
Client No.: HA3-09	Blue Line On Fiberglass West Of Pit 87	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
20	Chrysotile	30
		10
		<u>Type</u>
		Fibrous Glass
		Cellulose
		<u>% Non-Fibrous Material</u>
		40

Lab No.: 4427521	Description / Location: Black Tar	
Client No.: HA4-10	Yellow Line On Fiberglass Above Bldg.11B	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
20	Chrysotile	30
		Cellulose
		<u>% Non-Fibrous Material</u>
		50

Lab No.: 4427522	Description / Location: Black Tar	
Client No.: HA4-11	Yellow Line On Fiberglass South Of Bldg.73	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
20	Chrysotile	30
		Cellulose
		<u>% Non-Fibrous Material</u>
		50

Lab No.: 4427523	Description / Location: Black Tar	
Client No.: HA4-12	Yellow Line On Fiberglass West Of Pit 87	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
20	Chrysotile	20
		10
		<u>Type</u>
		Fibrous Glass
		Cellulose
		<u>% Non-Fibrous Material</u>
		50

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427524	Description / Location: White Insulation			
Client No.: HA5-13	Yellow Line Elbow Above Bldg. 11B			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	20	Fibrous Glass	60
10	Amosite			

Lab No.: 4427525	Description / Location: Tan Insulation			
Client No.: HA5-14	Yellow Line Elbow East Of Bldg. 180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 2.1	Chrysotile	10	Synthetic	PC 55.4
PC 2.5	Amosite	30	Fibrous Glass	

Lab No.: 4427526	Description / Location: Tan Insulation			
Client No.: HA5-15	Yellow Line Elbow East Of Bldg. 180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Fibrous Glass	80

Lab No.: 4427527	Description / Location: Black Tar			
Client No.: HA6-16	Yellow Line Elbow Above Bldg. 11B			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	30	Fibrous Glass	70

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	4427528	Description / Location:	Black Tar	
Client No.:	HA6-17		Yellow Line Elbow South Of Bldg.73	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	60
		20	Fibrous Glass	

Lab No.:	4427529	Description / Location:	Black Tar	
Client No.:	HA6-18		Yellow Line Elbow West Of Pit 87	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	10	Cellulose	70
		10	Fibrous Glass	

Lab No.:	4427530	Description / Location:	Brown Tar	
Client No.:	HA7-19		Orange O LineOnFiberglass Above Bldg.11B	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	10	Fibrous Glass	70

Lab No.:	4427531	Description / Location:	Brown Tar	
Client No.:	HA7-20		Orange O LineOnFiberglassSouth Of Bldg.73	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	10	Fibrous Glass	80

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427532	Description / Location: Black Tar			
Client No.: HA7-21	OrangeLineOn Fiberglass East Of Bldg180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	30	Fibrous Glass	70

Lab No.: 4427533	Description / Location: Black Tar			
Client No.: HA8-22	Orange Line Elbow Above Bldg.11B			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	30	Fibrous Glass	70

Lab No.: 4427534	Description / Location: Black Tar			
Client No.: HA8-23	Orange Line Elbow South Of Bldg.73			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 4427535	Description / Location: Black Tar			
Client No.: HA8-24	Orange Line Elbow West Of Pit 87			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	20	Fibrous Glass	70

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No.: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427536	Description / Location: White Insulation			
Client No.: HA9-25	Orange Line Elbow Above Bldg. 11B			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	20	Fibrous Glass	60

Lab No.: 4427537	Description / Location: Tan Insulation			
Client No.: HA9-26	Orange Line Elbow East Of Bldg. 180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Fibrous Glass	80

Lab No.: 4427538	Description / Location: Tan Insulation			
Client No.: HA9-27	Orange Line Elbow East Of Bldg. 180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Fibrous Glass	80

Lab No.: 4427539	Description / Location: Black Tar Patch			
Client No.: HA10-28	Orange Line Elbow Above Bldg. 11B			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427540	Description / Location: Black Tar Patch			
Client No.: HA10-29	Yellow Line West Of Pit 87			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

Lab No.: 4427541	Description / Location: Black Tar Patch			
Client No.: HA10-30	Blue Line West Of Pit 87			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

Lab No.: 4427542	Description / Location: Black Tar Paper			
Client No.: HA11-31	Green Line Above Bldg.11B			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	20	Cellulose	60

Lab No.: 4427543	Description / Location: Black Tar			
Client No.: HA11-32	Green Line South Of Bldg.73			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	30	Fibrous Glass	70

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427544	Description / Location: Black Tar Paper			
Client No.: HA11-33	Green Line West Of Pit 87			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	20	Cellulose	70

Lab No.: 4427545	Description / Location: Tan Insulation			
Client No.: HA12-34	Fitting On Blue Line West Of Bldg.12			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.: 4427546	Description / Location: White Insulation			
Client No.: HA12-35	Fitting On Blue Line South Of Bldg.190			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.: 4427547	Description / Location: Tan Insulation			
Client No.: HA12-36	Fitting On Blue Line South Of Bldg.173			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No.: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	4427548	Description / Location:	White Insulation	
Client No.:	HA13-37		Fitting On Green Line West Of Bldg.12	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.:	4427549	Description / Location:	White Insulation	
Client No.:	HA13-38		Fitting On Green Line South Of Bldg.190	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.:	4427550	Description / Location:	White Insulation	
Client No.:	HA13-39		Fitting On Green Line South Of Bldg.173	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.:	4427551	Description / Location:	White Insulation	
Client No.:	HA14-40		Fitting On Yellow Line West Of Bldg.12	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	4427552	Description / Location:	White Insulation	
Client No.:	HA14-41		Fitting On Yellow Line South Of Bldg.190	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.:	4427553	Description / Location:	White Insulation	
Client No.:	HA14-42		Fitting On Yellow Line South Of Bldg.173	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.:	4427554	Description / Location:	White Insulation	
Client No.:	HA15-43		Fitting On Orange Line West Of Bldg.11B	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.:	4427555	Description / Location:	White Insulation	
Client No.:	HA15-44		Fitting On Orange Line South Of Bldg.190	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427556	Description / Location: White Insulation			
Client No.: HA15-45	Fitting On Orange Line South Of Bldg.173			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
95	Chrysotile	None Detected	None Detected	5

Lab No.: 4427557	Description / Location: Tan Insulation			
Client No.: HA16-46	Green Line Elbow East Of Bldg.180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 3.1	Chrysotile	50	Fibrous Glass	PC 45.7
PC 1.2	Amosite			

Lab No.: 4427558	Description / Location: Tan Insulation			
Client No.: HA16-47	Green Line Elbow West Of Pit 87			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.5	Chrysotile	30	Fibrous Glass	PC 66.4
PC 2.1	Amosite			

Lab No.: 4427559	Description / Location: Tan Insulation			
Client No.: HA16-48	Green Line Elbow East Of Bldg.180			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	40	Fibrous Glass	60

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 9/18/2011
Report No.: 252210
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	4427560	Description / Location:	Tan Insulation	
Client No.:	HA17-49		White Line 3 Pipe EmergenceNear Bldg.11G	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	20	Fibrous Glass	60

Lab No.:	4427561	Description / Location:	Tan Insulation	
Client No.:	HA17-50		White Line 3 Pipe EmergenceNear Bldg.11G	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	20	Fibrous Glass	60

Lab No.:	4427562	Description / Location:	Tan Insulation; Over Fiber Glass	
Client No.:	HA17-51		White Line 3 Pipe EmergenceNear Bldg.11G	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	20	Fibrous Glass	60

Lab No.:	4427563	Description / Location:	White/Black Insulation; Patching	
Client No.:	HA18-52		White Line 3 Pipe EmergenceNear Bldg.11G	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.5	Chrysotile	None Detected	None Detected	PC 98.5

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Fauseit

Date: 9/18/2011



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

200 S. Michigan Ave., Suite 700
 Chicago, Illinois 60604
 phone: 312.356.5400
 fax: 312.356.5499

Offices also in:
 Columbus, Ohio
 Gary, Indiana
 Milwaukee, Wisconsin

Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

1. Sender's Name/Project No.		2. Sampling Site Address/Contact Telephone No.										Indicate Analysis Requested							
1602-029		Naval Station Great Lakes																	
3. Sampled by (Signature)		4. # of Samples in Shipment		5. Date of Sample Shipment			6. Date Results Needed												
52		9/12/11		9/19/11															
Item No.	Sample Number	Sample Location/Description	COMP	Matrix						Method Preserved				Date	Sampling Time	VOLUME (L)	TIME (Minutes)	# of Containers	Laboratory Number
				GRAB	WATER	SOIL	AIR	SLUDGE	OTHER	HCl	HNO ₃	H ₂ SO ₄	ICE						
1	HA1-01	TST WHITE BLUE LINE ELBOW west of bldg. 1187	X						X										
2	02	east of bldg. 190																	
3	03	west of pit 87																	
4	HA2-04	Black wrap Blue Line elbow west of bldg. 11																	
5	05	west of pit 87																	
6	06	west of pit 87																	
7	HA3-07	Black wrap Blue line on fiberglass west of bldg. 11																	
8	08	south of bldg 73																	
9	09	west of pit 87																	
10	HA4-10	Black wrap yellow line on fiberglass above bldg. 118																	
Time In:		Time Out:		Total Hours:		Signature:													
Released by (Signature)		Date/Time Released		Delivery Method		Released by (Signature)				Date/Time Released		Company/Agency Affiliation		Condition Noted					
[Signature]		9/12/11 12:00																	
Comments:																			



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

200 S. Michigan Ave., Suite 700
 Chicago, Illinois 60604
 phone: 312.356.5400
 fax: 312.356.5499

Offices also in:
 Columbus, Ohio
 Gary, Indiana
 Milwaukee, Wisconsin

Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

1. Sender's Name/Project No.		2. Sampling Site Address/Contact Telephone No.										Indicate Analysis Requested											
1602.029		Naval Station Great Lakes																					
3. Sampled by (Signature)		4. # of Samples in Shipment				5. Date of Sample Shipment						6. Date Results Needed											
52		52				9/12/11						9/14/11											
Item No	Sample Number	Sample Location/Description	COMP	GRAB	WATER	SOIL	AIR	SLUDGE	OTHER	HCl	HNO ₃	H ₂ SO ₄	ICE	NONE	OTHER	Date	Sampling Time	VOLUME (L)	TIME (Minutes)	# of Containers	Laboratory Number		
																						PLM	
1	HA4-11	Black wrap yellow line on fiber glass south of bldg 73 west of pit 87	X						X							9/7							
2	12																						
3	HA5-13	TSI yellow line elbow above bldg 11B																					
4	14	East of bldg 180																					
5	15	east of bldg 180																					
6	HA6-16	Black wrap yellow line elbow above bldg 11B																					
7	17	east of bldg south of bldg 73																					
8	18	west of pit 87																					
9	HA7-19	Black wrap orange line on fiber glass above bldg 11B																					
10	20	South of bldg 73																					
Time In:		Time Out:		Total Hours:		Signature:		Print Name:															
Released by (Signature)		Date/Time Released		Delivery Method		Released by (Signature)		Date/Time Released		Company/Agency Affiliation		Condition Noted											
9/12/11		9/12/11 17:00		To Archive/Disposal																			



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

200 S. Michigan Ave., Suite 700
 Chicago, Illinois 60604
 phone: 312.356.5400
 fax: 312.356.5499

Offices also in:
 Columbus, Ohio
 Gary, Indiana
 Milwaukee, Wisconsin

Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

1. Sender's Name/Project No.		2. Sampling Site Address/Contact Telephone No.										Indicate Analysis Requested							
McJannet 1602-029		Naval Station Great Lakes																	
3. Sampled by (Signature)		5. Date of Sample Shipment				6. Date Results Needed						TIME (Minutes)	# of Containers	Laboratory Number					
[Signature]		9/12/11				9/19/11													
Item No.	Sample Number	Sample Location/Description	Matrix			Method Preserved					VOLUME (L)	Laboratory Number							
			WATER	SOIL	AIR	SLUDGE	OTHER	HCl	HNO ₃	H ₂ SO ₄			ICE	NONE	OTHER	Date	Time		
1	HA7-21	Black wrap orange line on fiber glass east of bldg 180	X			X													
2	HA8-22	Black wrap orange line elbow above bldg 11B south of bldg 73																	
3	23																		
4	24	west of pit 87																	
5	HA9-25	TSI Orange Line elbow above bldg 11B east of bldg 180																	
6	26																		
7	27	east of bldg 180																	
8	HA10-28	Black tar patch orange line elbow above bldg 11B																	
9	29	yellow line west of pit 87																	
10	30	blue line west of pit 87																	
Time In:		Time Out:		Total Hours:		Signature:		Print Name:		Date/Time Released		Company/Agency Affiliation		Condition Noted					
[Signature]		9/12/11 12:00				[Signature]		[Signature]											
Comments:														To Archive/Disposal					



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

200 S. Michigan Ave., Suite 700
 Chicago, Illinois 60604
 phone: 312.356.5400
 fax: 312.356.5499

Offices also in:
 Columbus, Ohio
 Gary, Indiana
 Milwaukee, Wisconsin

Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

1. Sender's Name/Project No. <i>Ja. Jensen 1602-029</i>		2. Sampling Site Address/Contact Telephone No. <i>Abund. Station Great Lakes</i>		Indicate Analysis Requested			
3. Sampled by (Signature) <i>[Signature]</i>		5. Date of Sample Shipment <i>9/12/11</i>		6. Date Results Needed <i>9/19/11</i>			
4. # of Samples in Shipment <i>52</i>		Method Preserved		TIME (Minutes)			
Item No.	Sample Number	Sample Location/Description	Matrix			VOLUME (L)	Laboratory Number
			GRAB	WATER	SOIL		
			OTHER	HCl	HNO ₃	H ₂ SO ₄	
			ICE	NONE	OTHER	DATE	
			SAMPLING	TIME			
1	HA14-41	cloth wrap fitting on yellow line south of bldg 100-190	<input checked="" type="checkbox"/>			<i>9/7</i>	<i>1</i>
2	42	south of bldg 173					
3	HA15-43	cloth wrap fitting on orange line west of bldg 11B					
4	44	south of bldg 190					
5	45	south of bldg 173					
6	HA16-46	TSI TSN Green line elbow east of bldg 180					
7	47	west of pit 87					
8	48	east of bldg 180					
9	HA17-49	TSI over fiberglass white line Joyce emergence near bldg 11G					
10	50	Joyce emergence near bldg 11G					
Time In:		Time Out:		Total Hours:		Signature:	
Released by (Signature) <i>[Signature]</i>		Date/Time Released <i>9/12/11 12:00</i>		Released by (Signature)		Date/Time Released	
Delivery Method		To Archive/Disposal		Company/Agency Affiliation		Condition Noted	
Comments:							



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

200 S. Michigan Ave., Suite 700
 Chicago, Illinois 60604
 phone: 312.356.5400
 fax: 312.356.5499

Offices also in:
 Columbus, Ohio
 Gary, Indiana
 Milwaukee, Wisconsin

Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

1. Sender's Name/Project No.		2. Sampling Site Address/Contact Telephone No.										Indicate Analysis Requested						
3. Sampled by (Signature)		5. Date of Sample Shipment				6. Date Results Needed						TIME (Minutes)	# of Containers	Laboratory Number				
Sample Number	Sample Location/Description	COMP	GRAB	WATER	SOIL	AIR	Matrix	Method Preserved	Sampling	VOLUME (L)								
1	HW17-51 TST over fiberglass white line 3 pipe emergence near bldg 11G	X																
2	HW18-52 Patching white line 3 pipe emergence near bldg 11G	X																
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Time In:		Time Out:				Total Hours:				Signature:				Print Name:				
Released by (Signature)		Date/Time Released		Delivery Method		Released by (Signature)		Date/Time Released		Company/Agency Affiliation		Condition Noted						
[Signature]		9/12/11 12:00																
Comments:														To Archive/Disposal				



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 11/23/2011
Report No: 257721
Project: Ohio & Iowa Street
Project No.:

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	4486105	Description / Location:	Black Wrap	
Client No.:	TSIRI 001			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
15	Chrysotile	60	Cellulose	25

Lab No.:	4486106	Description / Location:	Black Wrap	
Client No.:	TSIRI 002			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
50	Chrysotile	20	Cellulose	30

Lab No.:	4486107	Description / Location:	Grey/Black Wrap	
Client No.:	TSIRI 003			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
50	Chrysotile	5	Mineral Wool	25
		20	Cellulose	

Lab No.:	4486108	Description / Location:	Grey/Black Wrap	
Client No.:	TSIRI 004			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
50	Chrysotile	20	Cellulose	30

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: J. Haremza

Approved By: 

Date: 11/23/2011

Frank E. Ehrenfeld, III
 Laboratory Director



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	Environ. Design International	Report Date:	11/23/2011
	33 W Monroe, Suite 1825	Report No.:	257721
	Chicago IL 60603	Project:	Ohio & Iowa Street
		Project No.:	

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	4486109	Description / Location:	Grey/Black Wrap	
Client No.:	TSIRI 005			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
25	Chrysotile	45	Cellulose	30

Lab No.:	4486110	Description / Location:	Grey/Black Wrap	
Client No.:	TSIRI 006			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
35	Chrysotile	40	Cellulose	25

Lab No.:	4486111	Description / Location:	Grey/Black Wrap	
Client No.:	TSIRI 007			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
40	Chrysotile	40	Cellulose	20

Lab No.:	4486112	Description / Location:	Grey/Black Wrap	
Client No.:	TSIRI 008			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
45	Chrysotile	30	Cellulose	25

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: J. Haremza

Date: 11/23/2011



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Environ. Design International
 33 W Monroe, Suite 1825
 Chicago IL 60603

Report Date: 11/23/2011
Report No: 257721
Project: Ohio & Iowa Street
Project No.:

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4486113	Description / Location: Black/Grey Wrap			
Client No.: TSIRI 009				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
35	Chrysotile	5	Mineral Wool	30
		30	Cellulose	

Lab No.: 4486114	Description / Location: Black/Grey Wrap			
Client No.: TSIRI 010				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
30	Chrysotile	30	Mineral Wool	20
		20	Cellulose	

Lab No.: 4486115	Description / Location: Black/Yellow Wrap			
Client No.: TSIRI 011				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
40	Chrysotile	10	Mineral Wool	25
		25	Cellulose	

Lab No.: 4486116	Description / Location: Black/White Wrap			
Client No.: TSIRI 012				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
40	Chrysotile	10	Mineral Wool	20
		30	Cellulose	

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: J. Haremza

Date: 11/23/2011



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM
 33 W. Monroe
 200 S. Wisconsin Ave., Suite 700
 Chicago, Illinois 60604 60603
 phone: 312.356.5400 315-1400
 fax: 312.356.5499 315-0529

Offices also in:
 Columbus, Ohio
 Gary, Indiana
 Milwaukee, Wisconsin

Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

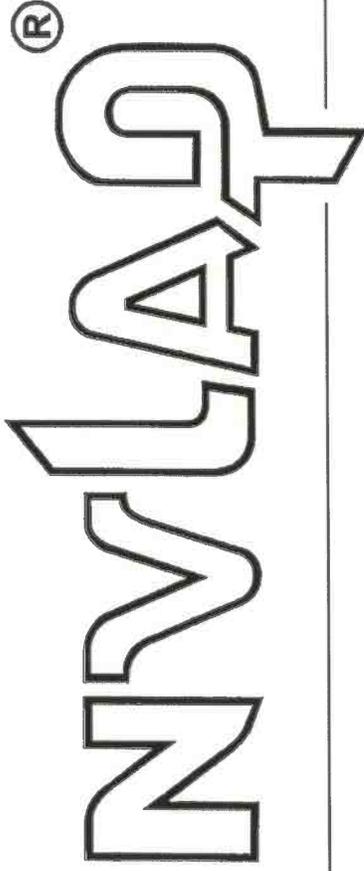
1. Sender's Name/Project No. Gary Benter
 2. Sampling Site Address/Contact Telephone No. OHIO 4 IOWA STREET
 3. Samples in Shipment (Signature) [Signature]
 4. # of Samples in Shipment 12
 5. Date of Sample Shipment 11/23/11
 6. Date Results Needed 11/23/11
 Indicate Analysis Requested

Item No.	Sample Number	Sample Location/Description	COMP	GRAB	WATER	SOIL	AIR	Method Preserved						SAMPLING TIME	VOLUME (L)	# of Containers	Laboratory Number
								SLUDGE	OTHER	HCl	HNO ₃	H ₂ O ₂	ICE				
1	TS1R1 001	Blue line/Black grey wrap over fiberglass	X													4486105	
2	TS1R2 002	Yellow limp/Black grey wrap over fiberglass	X													4486106	
3	TS1R1 003	Blue limp/Black grey wrap over fiberglass	X													4486107	
4	TS1R2 004	Yellow limp/black grey wrap over fiberglass	X													4486108	
5	TS1R1 005	Blue limp/black grey wrap over fiberglass	X													4486109	
6	TS1R2 006	Yellow limp/black grey wrap over fiberglass	X													4486110	
7	TS1R3 007	orange line - black grey wrap over fiberglass	X													4486111	
8	TS1R4 008	green line - black grey wrap over fiberglass	X													4486112	
9	TS1R3 009	orange line - black grey wrap over fiberglass	X													4486113	
10	TS1R4 010	green line - black grey wrap over fiberglass	X													4486114	

7. Signature: _____
 8. Date/Time Released: 11/23/11
 9. Date/Time Released: 11/22/11
 10. Date/Time Released: NOV 22 2011
 11. Company/Agency Affiliation: PRECOEIVED
 12. Condition Noted: _____
 13. Report Number: IATL-BY
 14. Page: _____ of _____

Comments: 11/23/11 Deke 11/25/11
 To Archive/Disposal
 Signature: [Signature]
 Date/Time Released: 11/23/11
 Released by (Signature): [Signature]
 Date/Time Released: 11/22/11
 Company/Agency Affiliation: PRECOEIVED
 Condition Noted: _____
 Report Number: IATL-BY
 Page: _____ of _____

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101165-0

International Asbestos Testing Laboratories

Mt. Laurel, NJ

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

AIRBORNE ASBESTOS FIBER ANALYSIS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2010-07-01 through 2011-06-30

Effective dates



Sally S. Bruce

For the National Institute of Standards and Technology



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

International Asbestos Testing Laboratories

9000 Commerce Parkway

Suite B

Mt. Laurel, NJ 08054

Mr. Frank E. Ehrenfeld, III

Phone: 856-231-9449 Fax: 856-231-9818

E-Mail: frankehrenfeld@iatl.com

URL: <http://www.iatl.com>

AIRBORNE ASBESTOS FIBER ANALYSIS (TEM)

NVLAP LAB CODE 101165-0

NVLAP Code Designation / Description

18/A02 U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

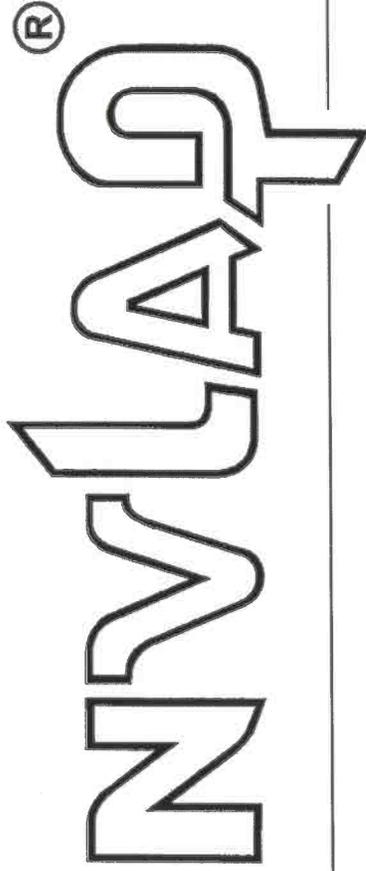
2010-07-01 through 2011-06-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101165-0

International Asbestos Testing Laboratories

Mt. Laurel, NJ

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).

2010-07-01 through 2011-06-30

Effective dates



Sally A. Bruce

For the National Institute of Standards and Technology



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

International Asbestos Testing Laboratories

9000 Commerce Parkway

Suite B

Mt. Laurel, NJ 08054

Mr. Frank E. Ehrenfeld, III

Phone: 856-231-9449 Fax: 856-231-9818

E-Mail: frankehrenfeld@iatl.com

URL: <http://www.iatl.com>

BULK ASBESTOS FIBER ANALYSIS (PLM)

NVLAP LAB CODE 101165-0

NVLAP Code Designation / Description

18/A01 EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2010-07-01 through 2011-06-30

Effective dates

For the National Institute of Standards and Technology



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

June 14, 2010

Mr. Frank E. Ehrenfeld, III
International Asbestos Testing Labs
9000 Commerce Parkway
Suite B
Mt. Laurel, NJ 08054

NVLAP Lab Code: 101165-0

Dear Mr. Ehrenfeld:

I am pleased to inform you that continuing accreditation for specific test methods in Airborne Asbestos Fiber Analysis (TEM) is granted to your organization under the National Voluntary Laboratory Accreditation Program (NVLAP). This accreditation is effective until June 30, 2011, provided that your organization continues to comply with accreditation requirements contained in the NVLAP Procedures.

Your Certificate of Accreditation is enclosed along with a statement of your Scope of Accreditation. You may reproduce these documents in their entirety and announce your organization's accreditation status using the NVLAP symbol and/or term in business publications, the trade press, and other business-oriented literature. Accreditation does not relieve your organization from observing and complying with any applicable existing laws and/or regulations.

We are pleased to have you participate in NVLAP and look forward to your continued association with this program. If you have any questions concerning your NVLAP accreditation, please direct them to Hazel M. Richmond, Program Manager, Laboratory Accreditation Program, National Institute of Standards and Technology, 100 Bureau Dr. Stop 2140, Gaithersburg, MD 20899-2140; (301) 975-4016.

Sincerely,

Sally S. Bruce, Chief
Laboratory Accreditation Program

Enclosure(s)





UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

June 14, 2010

Mr. Frank E. Ehrenfeld, III
International Asbestos Testing Labs
9000 Commerce Parkway
Suite B
Mt. Laurel, NJ 08054

NVLAP Lab Code: 101165-0

Dear Mr. Ehrenfeld:

I am pleased to inform you that continuing accreditation for specific test methods in Bulk Asbestos Fiber Analysis (PLM) is granted to your organization under the National Voluntary Laboratory Accreditation Program (NVLAP). This accreditation is effective until June 30, 2011, provided that your organization continues to comply with accreditation requirements contained in the NVLAP Procedures.

Your Certificate of Accreditation is enclosed along with a statement of your Scope of Accreditation. You may reproduce these documents in their entirety and announce your organization's accreditation status using the NVLAP symbol and/or term in business publications, the trade press, and other business-oriented literature. Accreditation does not relieve your organization from observing and complying with any applicable existing laws and/or regulations.

We are pleased to have you participate in NVLAP and look forward to your continued association with this program. If you have any questions concerning your NVLAP accreditation, please direct them to Hazel M. Richmond, Program Manager, Laboratory Accreditation Program, National Institute of Standards and Technology, 100 Bureau Dr. Stop 2140, Gaithersburg, MD 20899-2140; (301) 975-4016.

Sincerely,

Sally S. Bruce, Chief
Laboratory Accreditation Program

Enclosure(s)





June 30, 2011

Mr. Frank E. Ehrenfeld, III
International Asbestos Testing Labs
9000 Commerce Parkway
Suite B
Mt. Laurel, NJ 08054

NVLAP Lab Code: 101165-0

Dear Mr. Ehrenfeld:

I am pleased to inform you that continuing accreditation for specific test methods in Bulk Asbestos Fiber Analysis (PLM) is granted to your organization under the National Voluntary Laboratory Accreditation Program (NVLAP). This accreditation is effective until June 30, 2012, provided that your organization continues to comply with accreditation requirements contained in the NVLAP Procedures.

Your Certificate of Accreditation is enclosed along with a statement of your Scope of Accreditation. You may reproduce these documents in their entirety and announce your organization's accreditation status using the NVLAP symbol and/or term in business publications, the trade press, and other business-oriented literature. Accreditation does not relieve your organization from observing and complying with any applicable existing laws and/or regulations.

We are pleased to have you participate in NVLAP and look forward to your continued association with this program. If you have any questions concerning your NVLAP accreditation, please direct them to Hazel M. Richmond, Program Manager, Laboratory Accreditation Program, National Institute of Standards and Technology, 100 Bureau Dr. Stop 2140, Gaithersburg, MD 20899-2140; (301) 975-4016.

Sincerely,

Sally S. Bruce, Chief
Laboratory Accreditation Program

Enclosure(s)





**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

International Asbestos Testing Laboratories

9000 Commerce Parkway
Suite B

Mt. Laurel, NJ 08054

Mr. Frank E. Ehrenfeld, III

Phone: 856-231-9449 Fax: 856-231-9818

E-Mail: frankehrenfeld@iatl.com

URL: <http://www.iatl.com>

BULK ASBESTOS FIBER ANALYSIS (PLM)

NVLAP LAB CODE 101165-0

NVLAP Code Designation / Description

18/A01 EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

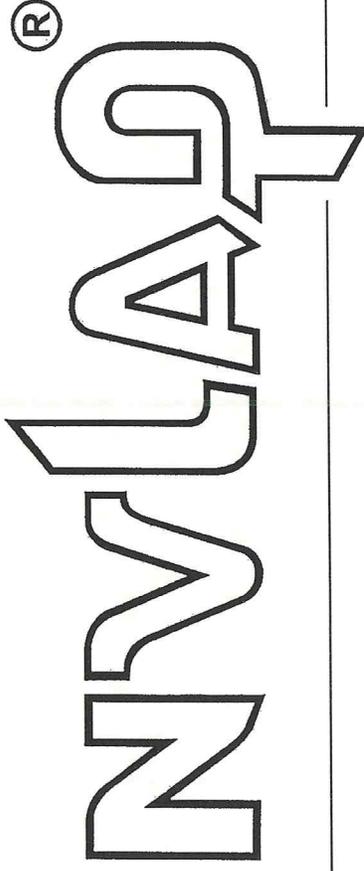
2011-07-01 through 2012-06-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101165-0

International Asbestos Testing Laboratories

Mt. Laurel, NJ

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2011-07-01 through 2012-06-30

Effective dates



Dolly S. Bruce
For the National Institute of Standards and Technology



June 30, 2011

Mr. Frank E. Ehrenfeld, III
International Asbestos Testing Labs
9000 Commerce Parkway
Suite B
Mt. Laurel, NJ 08054

NVLAP Lab Code: 101165-0

Dear Mr. Ehrenfeld:

I am pleased to inform you that continuing accreditation for specific test methods in Airborne Asbestos Fiber Analysis (TEM) is granted to your organization under the National Voluntary Laboratory Accreditation Program (NVLAP). This accreditation is effective until June 30, 2012, provided that your organization continues to comply with accreditation requirements contained in the NVLAP Procedures.

Your Certificate of Accreditation is enclosed along with a statement of your Scope of Accreditation. You may reproduce these documents in their entirety and announce your organization's accreditation status using the NVLAP symbol and/or term in business publications, the trade press, and other business-oriented literature. Accreditation does not relieve your organization from observing and complying with any applicable existing laws and/or regulations.

We are pleased to have you participate in NVLAP and look forward to your continued association with this program. If you have any questions concerning your NVLAP accreditation, please direct them to Hazel M. Richmond, Program Manager, Laboratory Accreditation Program, National Institute of Standards and Technology, 100 Bureau Dr. Stop 2140, Gaithersburg, MD 20899-2140; (301) 975-4016.

Sincerely,

Sally S. Bruce, Chief
Laboratory Accreditation Program

Enclosure(s)



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

International Asbestos Testing Laboratories

9000 Commerce Parkway

Suite B

Mt. Laurel, NJ 08054

Mr. Frank E. Ehrenfeld, III

Phone: 856-231-9449 Fax: 856-231-9818

E-Mail: frankehrenfeld@iatl.com

URL: <http://www.iatl.com>

AIRBORNE ASBESTOS FIBER ANALYSIS (TEM)

NVLAP LAB CODE 101165-0

NVLAP Code Designation / Description

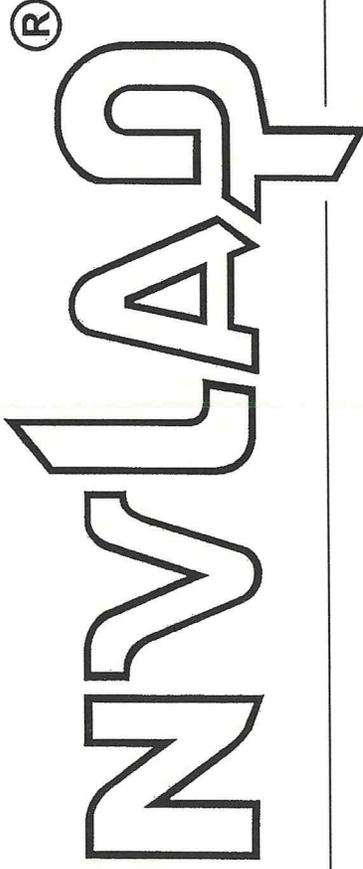
18/A02 U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

2011-07-01 through 2012-06-30

Effective dates

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101165-0

International Asbestos Testing Laboratories
Mt. Laurel, NJ

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

AIRBORNE ASBESTOS FIBER ANALYSIS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2011-07-01 through 2012-06-30

Effective dates



Dolly S. Bruce
For the National Institute of Standards and Technology



09/28/2011

Laboratory ID: 100188

Frank Ehrenfeld
International Asbestos Testing Laboratories (IATL)
9000 Commerce Parkway
Suite B
Mt. Laurel, NJ 08054

Dear Mr. Frank Ehrenfeld:

Congratulations! The AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC's Analytical Accreditation Board (AAB) has approved International Asbestos Testing Laboratories (IATL) as an accredited Industrial Hygiene and Environmental Lead laboratory.

Accreditation documentation includes the IHLAP and ELLAP accreditation certificate, scope of accreditation document and a copy of the current AIHA-LAP, LLC license agreement (if your completed agreement is not on file at AIHA-LAP, LLC). The accreditation logo has been designed for use by all AIHA-LAP, LLC accredited laboratories. If your laboratory chooses to use the logo in its advertising the laboratory's accreditation, you must complete and return the AIHA-LAP, LLC license agreement to a Laboratory Accreditation Specialist. Once submitted, an electronic copy of the accreditation logo will be sent to you. Please inform us if your laboratory does not wish to use the logo in advertising.

Laboratory accreditation shall be maintained by continued compliance with IHLAP and ELLAP requirements (*see Policy Modules 2B, 2C, 6B, and 6C*), which includes proficient participation in AIHA-LAP, LLC approved proficiency testing, demonstration of competency, or round robin program as indicated on the AIHA-LAP "Approved PT and Round Robin" webpage, its associated PT-Scope table, and as required in Policy Module 6, for all Fields of Testing (FoTs) for which the laboratory is accredited. An accredited laboratory that wishes to expand into a new FoT must submit an updated accreditation application to AIHA-LAP, LLC for review by the AAB.

Any changes in ownership, laboratory location, personnel, FoTs/Methods, or significant procedural changes shall be reported to AIHA-LAP, LLC in writing within twenty (20) business days of the change.

The accreditation certificate is the property of AIHA-LAP, LLC and must be returned to us should your laboratory withdraw or be removed from the IHLAP and ELLAP.

Again, congratulations. If you have any questions, please contact Edmund Wong, Laboratory Accreditation Specialist, at (703) 846-0716.

Sincerely,

Cheryl O. Morton
Director
AIHA Laboratory Accreditation Programs, LLC



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

International Asbestos Testing Laboratories (IATL)

9000 Commerce Parkway, Suite B, Mt. Laurel, NJ 08054

Laboratory ID: 100188

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

LABORATORY ACCREDITATION PROGRAMS

- | | |
|---|-----------------------------------|
| <input checked="" type="checkbox"/> INDUSTRIAL HYGIENE | Accreditation Expires: 05/01/2013 |
| <input checked="" type="checkbox"/> ENVIRONMENTAL LEAD | Accreditation Expires: 05/01/2013 |
| <input type="checkbox"/> ENVIRONMENTAL MICROBIOLOGY | Accreditation Expires: |
| <input type="checkbox"/> FOOD | Accreditation Expires: |

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

Christine Powell

Christine Powell

Chairperson, Analytical Accreditation Board

Revision 11: 01/13/2011

Cheryl O. Morton

Cheryl O. Morton

Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 10/01/2011



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

International Asbestos Testing Laboratories (IATL)
 9000 Commerce Parkway, Suite B, Mt. Laurel, NJ 08054

Laboratory ID: **100188**
 Issue Date: 10/01/2011

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or revocation. A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 03/01/1991

IHLAP Scope Category	Field of Testing (FoT)	Technology sub-type/ Detector	Published Reference Method/ Title of In-house Method	Method Description or Analyte <i>(for internal methods only)</i>
Spectrometry Core	Atomic Absorption	FAA	NIOSH 7082	
Asbestos/Fiber Microscopy Core	Polarized Light Microscopy (PLM)		EPA 600/R-93/116	
	Phase Contrast Microscopy (PCM)		NIOSH 7400	
	Transmission Electron Microscopy (TEM)		NIOSH 7402	

The laboratory participates in the following AIHA-LAP, LLC-approved proficiency testing programs:

- | | |
|---|--|
| <ul style="list-style-type: none"> √ AIHA-PAT Programs, LLC IHPAT Metals <input type="checkbox"/> AIHA-PAT Programs, LLC IHPAT Organic Solvents <input type="checkbox"/> AIHA-PAT Programs, LLC IHPAT Silica <input type="checkbox"/> AIHA-PAT Programs, LLC IHPAT Diffusive Sampler (3M) <input type="checkbox"/> AIHA-PAT Programs, LLC IHPAT Diffusive Sampler (SKC) <input type="checkbox"/> AIHA-PAT Programs, LLC IHPAT Diffusive Sampler (AT) √ AIHA-PAT Programs, LLC IHPAT Asbestos <input type="checkbox"/> AIHA-PAT Programs, LLC Bulk Asbestos (BAPAT) <input type="checkbox"/> AIHA-PAT Programs, LLC Beryllium (BePAT) <input type="checkbox"/> HSE Workplace Analytical Scheme for Proficiency (WASP) (Formaldehyde) <input type="checkbox"/> HSE Workplace Analytical Scheme for Proficiency (WASP) (Thermal Desorption Tubes) | <ul style="list-style-type: none"> <input type="checkbox"/> Pharmaceutical Round Robin <input type="checkbox"/> Compressed/Breathing Air Round Robin √ National Voluntary Laboratory Accreditation Program (NVLAP - determined at the time of site assessment) <input type="checkbox"/> New York State Department of Health (NYS DOH – PCM and TEM) <input type="checkbox"/> ERA Air and Emissions standards for indoor air quality <input type="checkbox"/> Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA, formerly BGIA) <input type="checkbox"/> Institut de Recherche Robert-Sauvé en Santé et en Sécurité du Travail (IRSST) |
|---|--|



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

International Asbestos Testing Laboratories (IATL)
9000 Commerce Parkway, Suite B, Mt. Laurel, NJ 08054

Laboratory ID: **100188**
Issue Date: 10/01/2011

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or revocation. A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 01/20/1997

Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Airborne Dust	NIOSH 7082	
Paint	ASTM D3335-85a	
Settled Dust by Wipe	EPA SW-846 7420	
Soil	EPA SW-846 7420	

The laboratory participates in the following AIHA-LAP, LLC-approved proficiency testing programs:

- √ Paint
- √ Soil
- √ Settled Dust by Wipe
- √ Airborne Dust

February 2, 2012

ENVIRONMENTAL DESIGN INTERNATIONAL INC.
33 West Monroe Street
Suite 1825
Chicago, IL 60603-5326

Reference: Environmental Design International Inc., Naval Station Great Lakes Reports, 1602.029

The employment of the USEPA 600 R93-116 analytical method is equivalent to the 40CFR763 required 1982 Interim Method listed on our accreditation.

Furthermore, all of the analytical work performed by iATL for this project in 2011 that listed this analytical method -was performed by the analytical technique of Polarized Light Microscopy (PLM).

If you have further questions or need to contact us please either call at (856) 231-9449 or email me directly at frankehrenfeld@iatl.com.

Regards,



Frank E. Ehrenfeld III
Laboratory Director – Vice President

Cc: Patricia Feeley - EDI
Gary Flentge – EDI
Harvey Pokorny – NAVFAC - MW

Appendix D: Paint Chip Summary Tables and Photographs

Paint Sample Summary Table
Buildings
Naval Station Great Lakes
Great Lakes, Illinois

Location	Homogenous Area Description	Sample Material Description	Sample ID	Results (% by weight lead)	Test Method	Approx. Quantity Square feet (s.f) Linear feet (l.f.)	Condition
Steam pipe supports near building 11	Steam pipe supports near building 11	Green over orange paint	A-PC -11- HA-201-01	15	AAS	74,104 s.f.	Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Green paint	A-PC-11- HA-201-2	11	AAS		Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Green over orange paint	A-PC-11- HA-201-3	21	AAS		Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Yellow paint concrete supports	A-PC-11- HA-202-1	19	AAS	50 s.f.	Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Yellow paint concrete supports	A-PC-11- HA-202-2	5.1	AAS	50 s.f.	Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Yellow paint concrete supports	A-PC-11- HA-202-3	7.1	AAS		Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Black paint concrete supports	A-PC-11- HA-203-1	15	AAS	50 s.f.	Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Black paint concrete supports	A-PC-11- HA-203-2	12	AAS		Good
Steam pipe supports near building 11	Steam pipe supports near building 11	Black paint concrete supports	A-PC-11- HA-203-3	15	AAS		Good

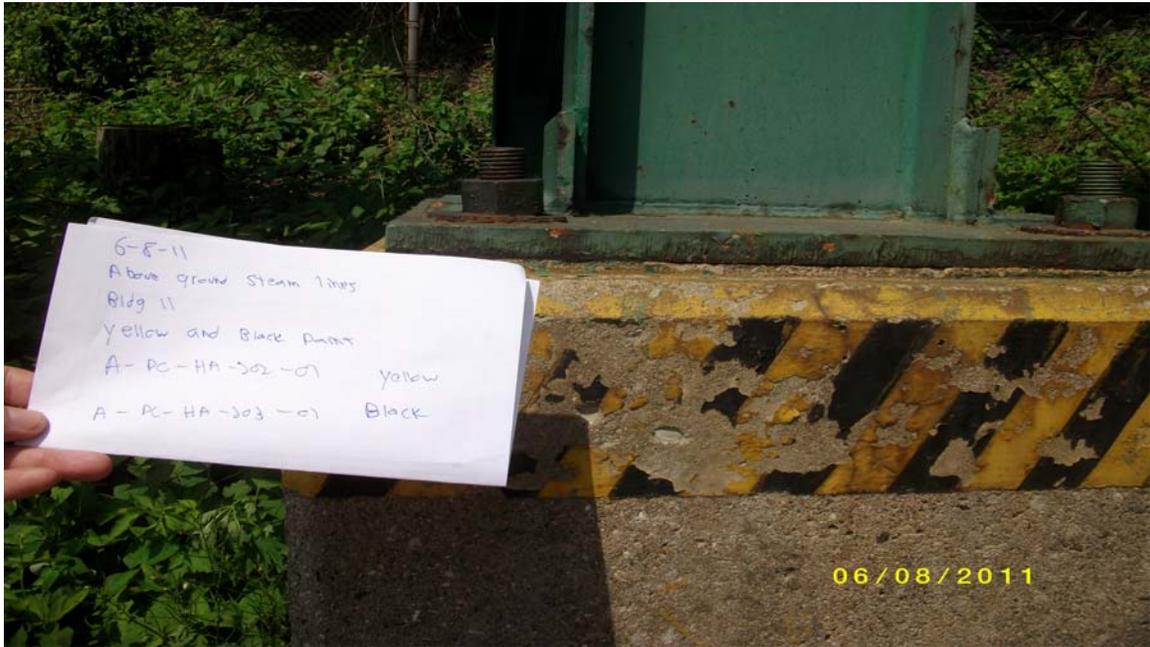
Paint Sample Summary Table
 Buildings
 Naval Station Great Lakes
 Great Lakes, Illinois

Location	Homogenous Area Description	Sample Material Description	Sample ID	Results (% by weight lead)	Test Method	Approx. Quantity Square feet (s.f.) Linear feet (l.f.)	Condition
Steam pipe supports near building 11	Steam pipe supports near building 11	Black paint metal stairs	A-PC-103-HA-203-4	0.0035	AAS	150 s.f.	Good
Near building 207	Ladder	Yellow paint on ladder	A-PC-HA-207-1	<0.0061	AAS	10 s.f.	Good
Near building 207	Ladder	Yellow paint on ladder	A-PC-HA-207-02	<0.0077	AAS	10 s.f.	Good
Near building 207	Ladder	Yellow paint on ladder	A-PC-HA-207-02	0.065	AAS	10 s.f.	Good

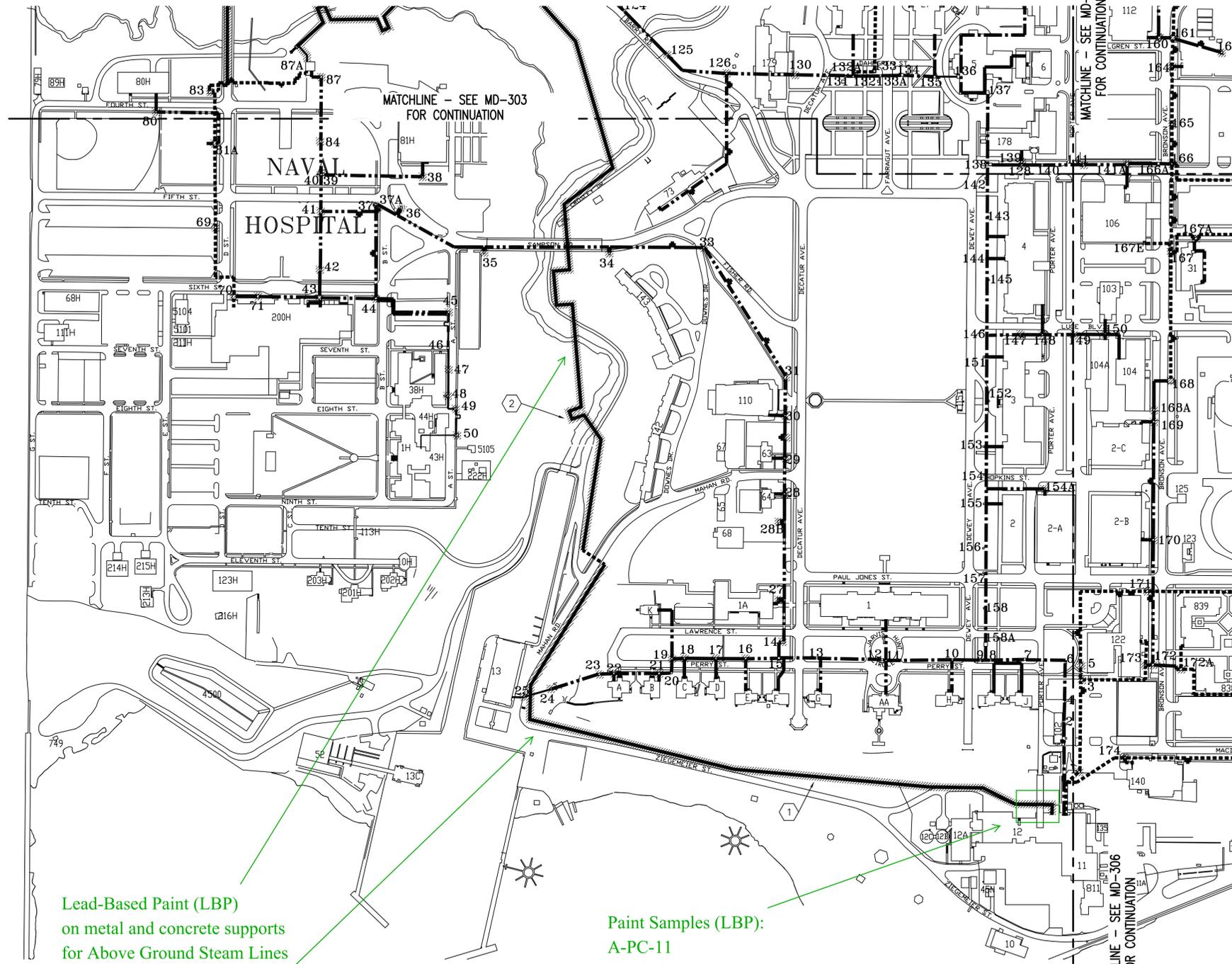
Analytical results performed by IATL by method AAS, % by weight lead.

Naval Station Great Lakes
LBP Photo Log of Above Ground Steam Lines
June, 2011
Photographed by John Wellman

Black and Yellow paint on concrete support. Green paint on metal support.



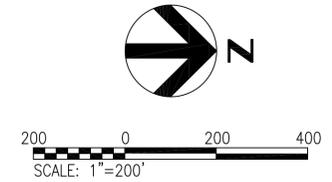
Appendix E: Paint Chip Sample Location Drawings



Lead-Based Paint (LBP)
on metal and concrete supports
for Above Ground Steam Lines

Paint Samples (LBP):
A-PC-11
HA-201-1,2&3
HA-202-1,2&3
HA-203-1,2&3
Green, yellow and black paint
on metal and concrete supports

- LEGEND
- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
 - - - INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
 - INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
 - - - - - INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
 - ▨ INDICATES DEMOLITION
 - XXX INDICATES STEAM PIT TO BE DEMOLISHED

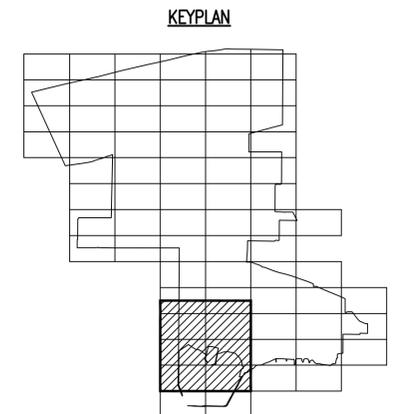


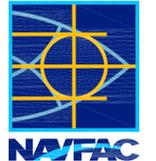
GENERAL NOTES:

1. DIRECT BURIED PIPING, PIPING IN CHASES AND PIPING IN TUNNEL TO BE ABANDONED IN PLACE.
2. SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

KEYED NOTES:

- 1 ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED FROM B-11 TO WHERE STEAM PIPING IS ROUTED UNDER MAHAN ROAD.
- 2 ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 PIT AND TO WHERE STEAM PIPING IS ROUTED UNDER MAHAN ROAD.

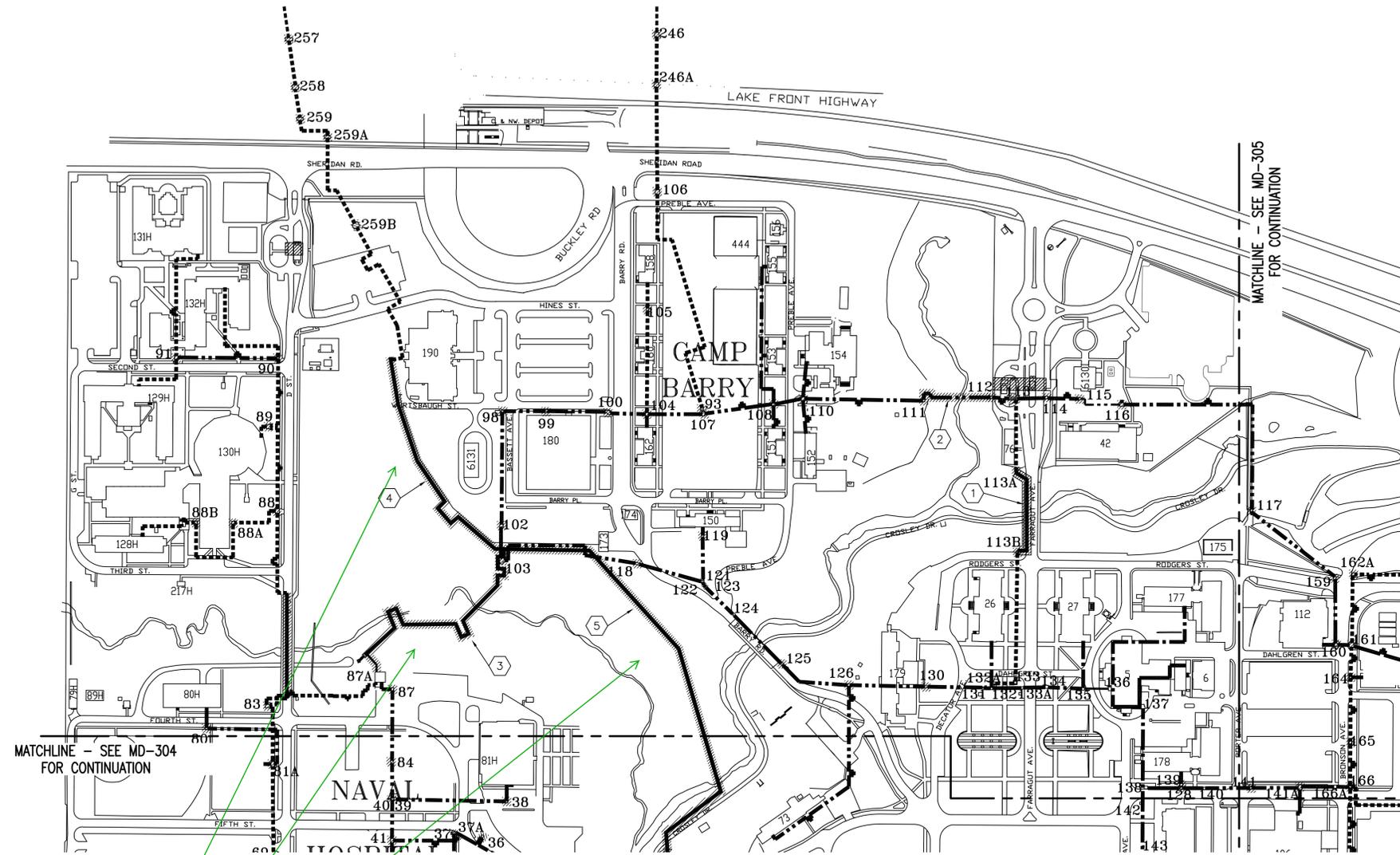


	<p>PRELIMINARY NOT FOR CONSTRUCTION</p>
<p>APPROVED: _____ FOR COMMANDER NAVFAC ACTIVITY: _____</p>	
<p>SATISFACTORY TO: _____ DATE: _____ DES: XXX DRW: XXX CHK: XXX <<PM/DM>> BRANCH MANAGER: _____ CHIEF ENG/ARCH: XXX <<DD>></p>	
<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ~ MIDWEST PUBLIC WORKS DEPARTMENT NAVAL STATION GREAT LAKES GREAT LAKES, IL</p>	
<p>P-816 STEAM DECENTRALIZATION B-11 SITE PIPING PLAN</p>	
<p>SCALE: AS NOTED PROJECT NO.: ##### CONSTR. CONTR. NO.: ##### NAVFAC DRAWING NO.: ##### SHEET ## OF ##</p>	
<p>MD-304 DRAWING REVISION: 10 MARCH 2009</p>	

FILE NAME: C:\paworking\csmo\0867328\MD-304.dwg LAYOUT NAME: Plot PLOTTED: Wednesday, June 15, 2011 - 11:28am USER: lemke



200 0 200 400
SCALE: 1"=200'



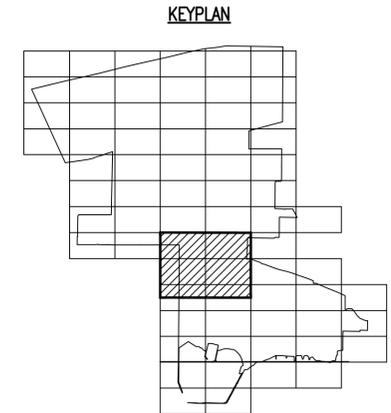
Lead-Based Paint (LBP)
on metal and concrete supports
for Above Ground Steam Lines

- GENERAL NOTES:**
- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
 - SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

- KEYED NOTES:**
- DEMOLISH ABOVE GRADE STEAM PIPING SUPPORTED FROM BRIDGE STRUCTURE FROM STEAM PITS 113A TO 113B.
 - DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT FROM STEAM PITS 111 AND 112. DEMOLISH THE STEEL SUPPORT STRUCTURE ASSOCIATED WITH STEAM AND CONDENSATE PIPING BETWEEN STEAM PITS 111 AND 112.
 - ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 87A AND STEAM PIT 103.
 - ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 AND BUILDING 190.
 - ABOVE GRADE STEAM AND CONDENSATE PIPING TO BE DEMOLISHED BETWEEN STEAM 103 AND TO WHERE STEAM PIPING IS ROUTED UNDER MOHAN ROAD.

LEGEND

	- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
	- INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
	- INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
	- INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
	- INDICATES DEMOLITION
	- INDICATES STEAM PIT TO BE DEMOLISHED



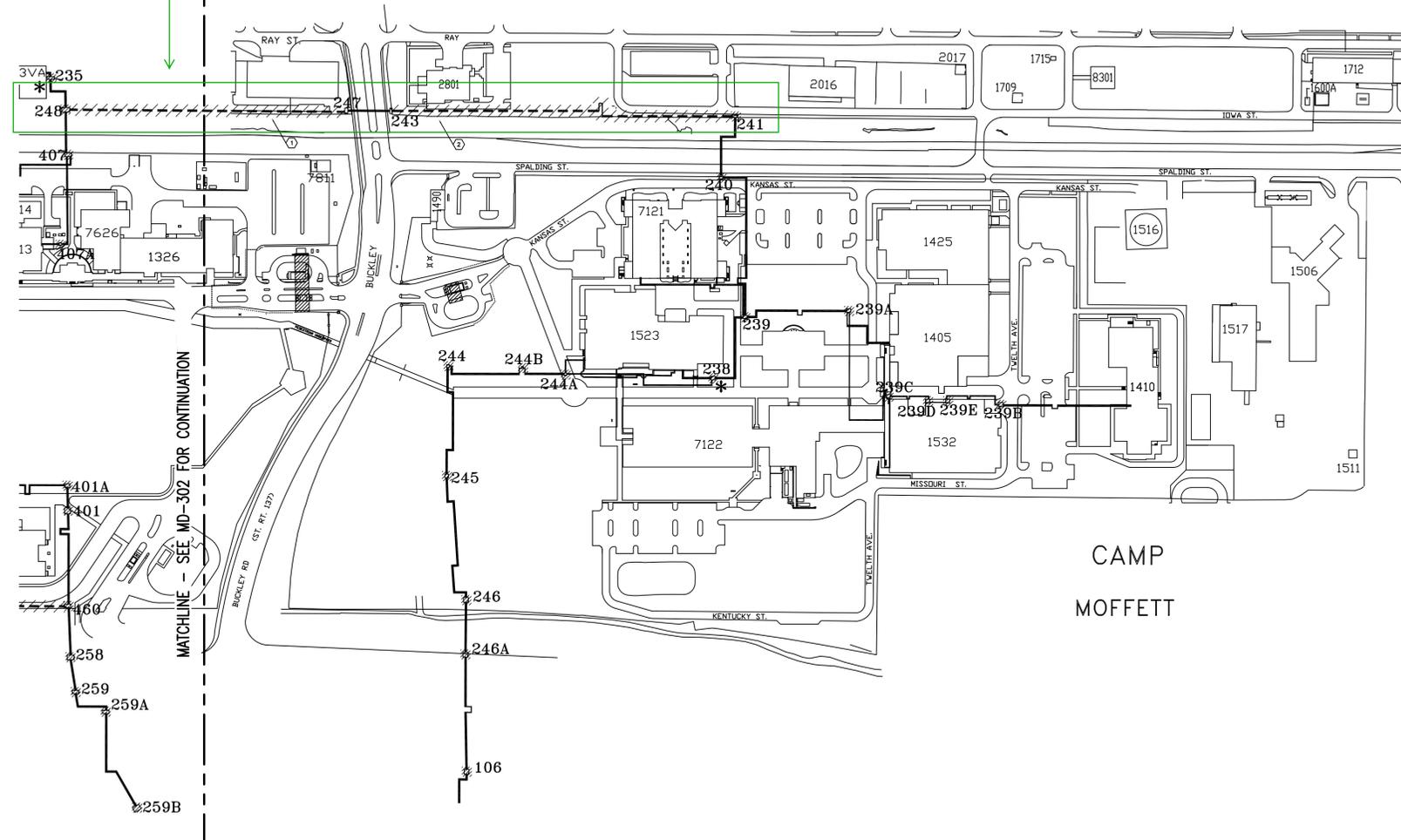
APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES XXX	DRW XXX	CHK XXX
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH	XXX	
<<DD>>		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL FACILITIES ENGINEERING COMMAND	~ MIDWEST	
PUBLIC WORKS DEPARTMENT	INSL GREAT LAKES, ILLINOIS	
NAVAL STATION GREAT LAKES	GREAT LAKES, IL	
P-816 STEAM DECENTRALIZATION B-11		
SITE PIPING PLAN		
SCALE:	AS NOTED	
PROJECT NO.:	#####	
CONSTR. CONTR. NO.	#####	
NAVFAC DRAWING NO.	#####	
SHEET #	OF #	
MD-303		
DRAWFORM REVISION: 10 MARCH 2009		

FILE NAME: C:\paworking\cemo\0667328\MD-303.dwg LAYOUT NAME: Plot_PLOTTED: Wednesday, June 15, 2011 - 11:27am USER: itemk



200 0 200 400
SCALE: 1"=200'

Aboveground Steam Lines: LBP on metal and concrete supports



GENERAL NOTES:

- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
- SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

KEYED NOTES:

- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 248 TO STEAM PIT 247.
- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 243 TO STEAM PIT 241.



**PRELIMINARY
NOT FOR CONSTRUCTION**

APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES XXX	DRW XXX
CHK XXX	
<<PM/DM>>	
BRANCH MANAGER	
CHIEF ENG/ARCH	XXX
<<OO>>	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ MIDWEST
PUBLIC WORKS DEPARTMENT
NAVAL STATION GREAT LAKES
GREAT LAKES, IL
P-816 STEAM DECENTRALIZATION B-11
SITE PIPING PLAN

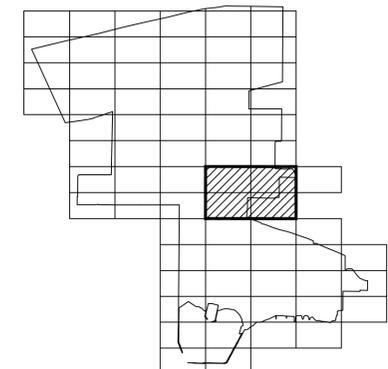
SCALE:	AS NOTED
PROJECT NO.:	#####
CONSTR. CONTR. NO.	#####
NAVFAC DRAWING NO.	#####
SHEET #	OF #

MD-302
DRAWFORM REVISION: 10 MARCH 2009

LEGEND

- INDICATES UNDERGROUND STEAM AND CONDENSATE PIPING
- - - - - INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING
- ////// INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING TO BE DEMOLISHED
- ☒ INDICATES STEAM PIT TO BE DEMOLISHED

KEYPLAN





200 0 200 400
SCALE: 1"=200'

GENERAL NOTES:

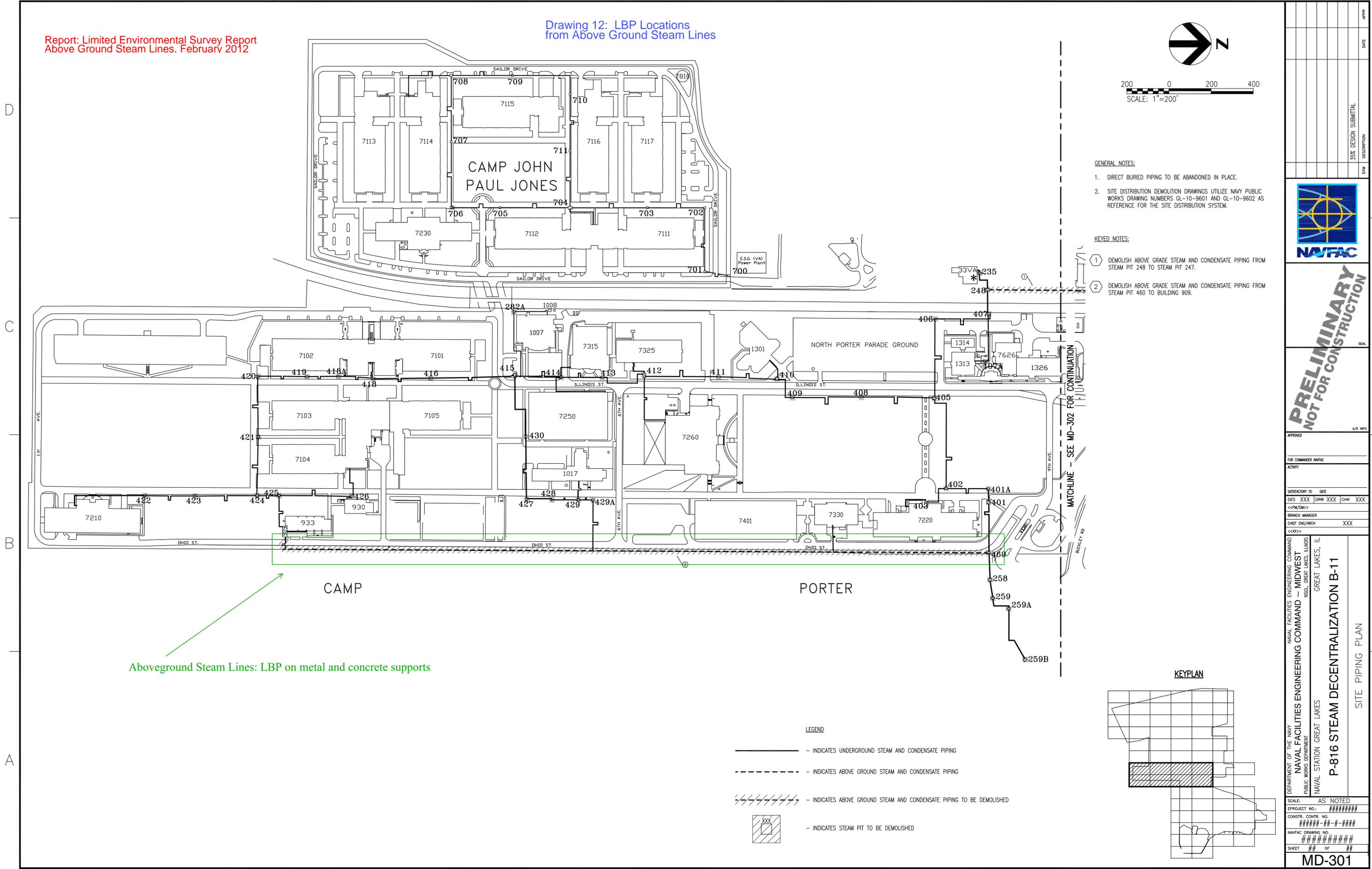
- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
- SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

KEYED NOTES:

- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 248 TO STEAM PIT 247.
- DEMOLISH ABOVE GRADE STEAM AND CONDENSATE PIPING FROM STEAM PIT 460 TO BUILDING 909.



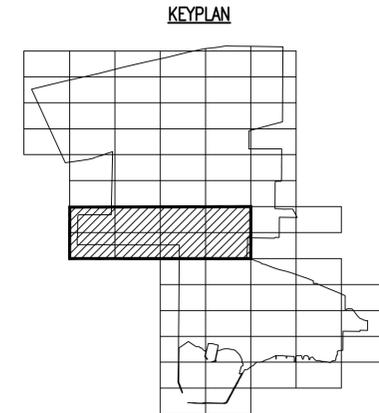
**PRELIMINARY
NOT FOR CONSTRUCTION**



Aboveground Steam Lines: LBP on metal and concrete supports

LEGEND

- INDICATES UNDERGROUND STEAM AND CONDENSATE PIPING
- - - - - INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING
- /////// INDICATES ABOVE GROUND STEAM AND CONDENSATE PIPING TO BE DEMOLISHED
- XXX INDICATES STEAM PIT TO BE DEMOLISHED



FILE NAME: C:\pawawing\csmo\0865328\MD-301.dwg PLOT DATE: Wednesday, June 15, 2011 11:27am USER: ltmk

<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC WORKS DEPARTMENT</p> <p>NAVAL FACILITIES ENGINEERING COMMAND ~ MIDWEST INSL. GREAT LAKES, ILLINOIS</p> <p>NAVAL STATION GREAT LAKES GREAT LAKES, IL</p> <p>P-816 STEAM DECENTRALIZATION B-11</p> <p>SITE PIPING PLAN</p>	<p>SCALE: AS NOTED</p> <p>PROJECT NO.: #####</p> <p>CONSTR. CONTR. NO. #####</p> <p>NAVFAC DRAWING NO. #####</p> <p>SHEET ## OF ##</p> <p>MD-301</p> <p><small>DRAWFORM REVISION: 10 MARCH 2009</small></p>
<p>APPROVED</p> <p>FOR COMMANDER NAVFAC</p> <p>ACTIVITY</p> <p>SATISFACTORY TO DATE</p> <p>DES XXX DRW XXX CHK XXX</p> <p><<PM/DM>></p> <p>BRANCH MANAGER</p> <p>CHIEF ENG/ARCH XXX</p> <p><<OO>></p>	<p>APPR</p> <p>DATE</p> <p>35% DESIGN SUBMITTAL</p> <p>SM</p> <p>DESCRIPTION</p>

Appendix F: Paint Chip Laboratory Results and Certifications

CERTIFICATE OF ANALYSIS

Client:	Environ. Design International 33 W Monroe, Suite 1825 Chicago IL 60603	Report Date:	6/21/2011
		Report Number:	243159
		Project:	Naval Station Great Lakes
		Project No.:	1602.029

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
4335258	A-PC-11-HA-201-01	Green Over Orange Paint Steam Pipe Supports Near Bldg. 11	15
4335259	A-PC-11-HA-201-02	Green Paint/Steam Pipe Supports	11
4335260	A-PC-11-HA-201-03	Green Over Orange Paint Steam Pipe Supports	21***
4335261	A-PC-11-HA-202-01	Yellow Paint/Concrete Supports For Steam Lines Near Bldg. 11	19
4335262	A-PC-11-HA-202-02	Yellow Paint/Concrete Supports For Steam Lines Near Bldg. 11	5.1***
4335263	A-PC-11-HA-202-03	Yellow Paint/Concrete Supports For Steam Lines Near Bldg. 11	7.1***
4335264	A-PC-11-HA-203-01	Black Paint/Concrete Support For Steam Line Near Bldg. 11	15
4335265	A-PC-11-HA-203-02	Black Paint/Concrete Support For Steam Line Near Bldg. 11	12
4335266	A-PC-11-HA-203-03	Black Paint/Concrete Support For Steam Line Near Bldg. 11	15
4335267	A-PC-103-HA-203-04	Black Paint/Metal Stairs	0.035

Accreditations: **NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)**
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
 EPA SW846-(3050B/7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight, RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 6/14/2011
Date Analyzed: 6/21/2011
Analyst: C. Shaffer

CERTIFICATE OF ANALYSIS

Client:	Environ. Design International 33 W Monroe, Suite 1825 Chicago IL 60603	Report Date:	6/21/2011
		Report Number:	243159
		Project:	Naval Station Great Lakes
		Project No.:	1602.029

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
4335268	A-PC-HA-207-01	Additional Sample Received	<0.0061
4335269	A-PC-HA-207-02	Additional Sample Received	<0.0077
4335270	A-PC-HA-207-03	Additional Sample Received	0.065

Accreditations: **NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)**
 AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
 EPA SW846-(3050B;7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 6/14/2011
Date Analyzed: 6/21/2011
Analyst: C. Shaffer

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

200 S. Michigan Ave., Suite 700
 Chicago, Illinois 60604
 phone: 312.356.5400
 fax: 312.356.5499

Offices also in:
 Columbus, Ohio
 Gary, Indiana
 Milwaukee, Wisconsin



Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

1. Sender's Name/Project No.		2. Sampling Site Address/Contact Telephone No.		3. Samples by (Signature)		4. # of Samples in Shipment		5. Date of Sample Shipment		6. Date Results Needed		Indicate Analysis Requested		Laboratory Number								
Schwager / 1602-029		Maul Station Great Lakes		[Signature]		139		6/13/11		3-24-11		PLM BAS										
Item No	Sample Number	Sample Location/Description	COMP	GRAB	WATER	SOIL	AB	SLUDGE	OTHER	HCl	HNO3	H2SO4	ICE	NONE	OTHER	Date	Sampling Time	VOLUME (L)	TIME (Minutes)	# of Containers		
1	A-PC-11-HA-201-01	Green over orange paint	X						X				X			6/8				1	4335258	
2	A-PC-11-HA-201-02	Steel pipe supports near bldg #11 Green paint on steel pipe supports																			1	4335259
3	A-PC-11-HA-201-03	Green paint over orange on steel pipe supports																			1	4335260
4	A-PC-11-HA-202-01	Yellow paint on concrete supports for steel truss assembly #11																			1	4335261
5	A-PC-11-HA-202-02																				1	4335262
6	A-PC-11-HA-202-03																				1	4335263
7	A-PC-11-HA-203-01	Black paint on concrete support for steel truss near bldg #11																			1	4335264
8	A-PC-11-HA-203-02																				1	4335265
9	A-PC-11-HA-203-03																				1	4335266
10	A-PC-103-HA-203-04	Black paint on metal stairs																			1	4335267
Time In:		Time Out:		Total Hours:		Signature:		Released by (Signature)		Date/Time Released		Company/Agency Affiliation		Condition Noted								
[Signature]		[Signature]		[Signature]		[Signature]		Additional Samples labeled		4335268		A-PC-HA-201-01										
[Signature]		[Signature]		[Signature]		[Signature]		To: [Signature]		4335269		[Signature]										
[Signature]		[Signature]		[Signature]		[Signature]		To: [Signature]		4335270		[Signature]										

White - Client/Customer Copy
 Yellow - Billing Copy
 Pink - In-House File Copy

Comments:



AIHA

Laboratory Accreditation
Programs, LLC

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

International Asbestos Testing Laboratories (IATL)

9000 Commerce Parkway, Suite B, Mt. Laurel, NJ 08054

Laboratory ID: 100188

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

ACCREDITATION PROGRAMS

- ✓ **INDUSTRIAL HYGIENE** Accreditation Expires: 05/01/2011
- ✓ **ENVIRONMENTAL LEAD** Accreditation Expires: 05/01/2011
- ENVIRONMENTAL MICROBIOLOGY** Accreditation Expires:
- FOOD** Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with LQAP requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA website for the most current status of the scope of accreditation.



Pamela A. Kostle, CIH
Chairperson, Analytical Accreditation Board

Date Issued: 05/01/2009



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

International Asbestos Testing Laboratories (IATL)
 9000 Commerce Parkway, Suite B, Mt. Laurel, NJ 08054

Laboratory ID: **100188**
 Issue Date: 05/01/2009

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or revocation. A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 03/01/1991

IHLAP Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Core Program Testing	AA	NIOSH 7082	
	Polarized Light Microscopy (PLM)	EPA 600/R-93/116	
	Phase Contrast Microscopy (PCM)	NIOSH 7400	
	Transmission Electron Microscopy (TEM)	NIOSH 7402	

The laboratory participates in the following AIHA-LAP, LLC* or AIHA-LAP, LLC-approved proficiency testing programs:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Metals*
<input type="checkbox"/> Silica*
<input checked="" type="checkbox"/> Asbestos*
<input type="checkbox"/> Bulk Asbestos*
<input type="checkbox"/> Beryllium*
<input type="checkbox"/> WASP ¹ (Thermal Desorption Tubes)
<input type="checkbox"/> Pharmaceutical Round Robin
<input type="checkbox"/> Compressed/Breathing Air Round Robin
<input type="checkbox"/> NVLAP (determined at the time of site assessment) | <input type="checkbox"/> Organic Solvents*
<input type="checkbox"/> Diffusive Sampler (3M)*
<input type="checkbox"/> Diffusive Sampler (SKC)*
<input type="checkbox"/> Diffusive Sampler (AT)*
<input type="checkbox"/> WASP ¹ (Formaldehyde) |
|---|--|

¹ Workplace Analytical Scheme for Proficiency



AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

International Asbestos Testing Laboratories (IATL)
9000 Commerce Parkway, Suite B, Mt. Laurel, NJ 08054

Laboratory ID: **100188**
Issue Date: 05/01/2009

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or revocation. A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 1/20/1997

Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Airborne Dust	NIOSH 7082	
Paint	ASTM D3335-85a	
Settled Dust By Wipe	EPA SW-846 7420	
Soil	EPA SW-846 7420	

The laboratory participates in the following AIHA-LAP, LLC testing programs:

- ✓ Paint
- ✓ Soil
- ✓ Settled Dust by Wipe
- ✓ Airborne Dust

Appendix G: Employee License and Certifications



**ASBESTOS
PROFESSIONAL
LICENSE**

ID NUMBER 100 - 10088
ISSUED 3/16/2011
EXPIRES 05/15/2012

JOSE G AGUILERA
2652 S. CENTRAL PARK AVEN
CHICAGO, IL 60623
Environmental Health



This is to Certify that
Jose Aguilera
Has Satisfactorily Completed Training in Accordance
with Applicable Rules and Regulations
Asbestos Building Inspector Refresher

Completed: 1/19/2011 Certificate
Expires: 1/19/2012 BIR101190180

2011
Occupational Training & Supply, Inc.
7233 Adams Street • Willowbrook, IL 60527 • (630) 655-3900

Heartsaver® First Aid
Jose Aguilera

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA for Heartsaver First Aid Program.

Modules Completed: (A) (B) (C) (D) (E)

Is the Date **AUG 21 2010** Recommended Renewal Date **AUG 21 2012**



Learn and Live

Training Center _____
TC Address _____
Contact Info _____
Course **CHICAGOLAND CPR & SAFETY TRAINING**
Location **THOMAS DUKUPS**
Instructor **708-259-6018**

Holder's Signature

American Heart Association Tampering with this card will alter its appearance. 80-1-2c

ENDORSEMENTS

TC EXPIRES

INSPECTOR

4/19/2012

PROJECT MANAGER
AIR SAMPLING PROFESSIONAL

7/30/2011

Alteration of this license shall result in legal action

This license issued under authority of the State of Illinois
Department of Public Health

This license is valid only when accompanied by a valid
training course certificate.



Occupational Training & Supply, Inc.

7233 Adams Street ♦ Willowbrook, IL 60527 ♦ (630) 655-3900

Jose G. Aguilera

has successfully completed the 16 hour Lead Risk Assessor course and has passed the competency exam with a minimum score of 70%. This course is accredited by the Illinois Department of Public Health in accordance with the Illinois Lead Poisoning Prevention Code.

Lead Risk Assessor

Course Date: 4/2-3/2009

Expiration Date: 4/3/2012

Exam Date: 4/3/2009

Certificate: LRA0904021069

Kathy DeSalvo
Director

2009



**ASBESTOS
PROFESSIONAL
LICENSE**

ID NUMBER
100 - 00249

ISSUED
2/8/2011

EXPIRES
05/15/2012

JOHN C FEELY
9513 SOUTH LAWTON AVENUE
OAK LAWN, IL 60453



Environmental Health



**LEAD RISK
ASSESSOR LICENSE**

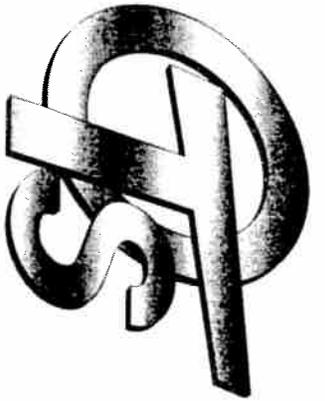
LEAD ID ISSUED
007573 1/6/2011

EXPIRES
1/31/2012

John C Feely
9513 S. Lawton
Oak Lawn, IL 60453



ILLINOIS LEAD PROGRAM
Environmental Health



Occupational Training & Supply, Inc.

7233 Adams Street • Willowbrook, IL 60527 • (630) 655-3900

John Feely

has successfully completed the 4 hour Asbestos Building Inspector Refresher course and has passed the competency exam with a minimum score of 70%. This course is accredited by the Illinois Department of Public Health and the Indiana Department of Environmental Management for purposes of accreditation in accordance with EPA 40 CFR 763, Asbestos Hazard Emergency Response Act (AHERA) and TSCA Title II.

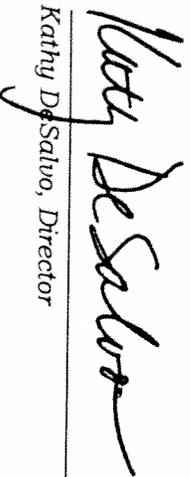
Asbestos Building Inspector Refresher

Course Date: 1/7/2011

Expiration Date: 1/7/2012

Exam Date: 1/7/2011

Certificate: BIR1101070045


Kathy DeSalvo, Director

2011

Certificate No: 5LW030411081R

Issue Date: March 8, 2011

Expiration Date: March 4, 2012



This diploma is awarded to

Gary Flentge

for successfully completing and passing the examination for the

ASBESTOS INSPECTOR

REFRESHER TRAINING COURSE

*This training course complies with the requirements of TSCA Title II
and is accredited by the State of Wisconsin, Department of Health Services,
under chapter HFS 159, Wis. Admin. Code,
conducted by*

Lake States Environmental, Ltd.

at

1616 Crestview Dr, Hudson, WI on March 4, 2011

Examination Date: March 4, 2011

*Lake States Environmental, Ltd
P. O. Box 645, Rice Lake, WI 54868
(800) 254-9811*


Bob Rogalla - Training Course Manager

Certificate No: SLM030411071R

Expiration Date: March 4, 2012

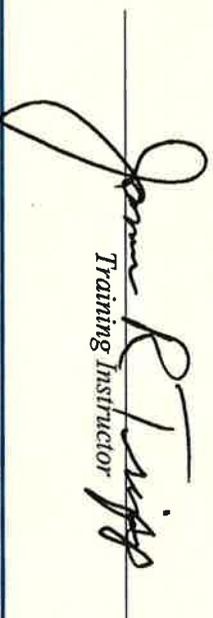
This is to certify that
Gary Flentge

has attended and successfully completed an
**ASBESTOS INSPECTOR
REFRESHER TRAINING COURSE**

permitted by
the State of Minnesota under Minnesota Rules 4620.3702 to 4620.3722
and meets the requirements of
Section 206 of Title II of the Toxic Substances Control Act (TSCA)
conducted by

Lake States Environmental, Ltd.
ⁱⁿ
Hudson, WI on March 4, 2011
Examination Date: March 4, 2011

Lake States Environmental, Ltd
P. O. Box 645, Rice Lake, WI 54868
(800) 254-9811


Training Instructor



**ASBESTOS
PROFESSIONAL
LICENSE**

ID NUMBER
100 - 03472

ISSUED
3/11/2011

EXPIRES
05/15/2012

GARY P FLENTGE
329 PRAIRIEVIEW DR
OSWEGO, IL 60543

Environmental Health



ENDORSEMENTS	TC EXPIRES
SUPERVISOR/WORKER	9/10/2011
INSPECTOR	1/14/2012
MANAGEMENT PLANNER	1/7/2012
PROJECT MANAGER	9/10/2011
AIR SAMPLING PROFESSIONAL	

Alteration of this license shall result in legal action

This license issued under authority of the State of Illinois
Department of Public Health

This license is valid only when accompanied by a valid
training course certificate.



**ASBESTOS
PROFESSIONAL
LICENSE**

ID NUMBER
100 - 18299

ISSUED
4/11/2011

EXPIRES
05/15/2012

CRAIG A CHAMBERS
1438 W EDGEWATER AVE
CHICAGO, IL 60660

Environmental Health



ENDORSEMENTS

TC EXPIRES

PROJECT DESIGNER

4/1/2012

Alteration of this license shall result in legal action
This license issued under authority of the State of Illinois
Department of Public Health
This license is valid only when accompanied by a valid
training course certificate.