

Limited Environmental Survey
Steam Chases
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:



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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', is 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', is written over a horizontal line.

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



Exp. Date) Nov 30, 2013



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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– Steam Chases
Naval Station Great Lakes
Great Lakes, Illinois
EDI Project No. 1602.029.01

Dear Mr. Luciano:

Enclosed please find the Limited Environmental Survey for Steam Chases, 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 (ACM) for the accessible steam pipe insulation materials and materials related to Steam Chases, 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 the suspect materials sampled were reported as non-ACM. No abatement cost estimate will be prepared as no materials were identified for abatement.

EDI performed a visual inspection of Steam Chases for suspect lead painted components. No painted components were identified along the Steam Chases.

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

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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-based paint, and other potential hazardous materials observed. The base-wide steam line distribution system targeted for demolition included aboveground steam lines, underground steam lines, and associated Buildings. Portions of underground steam lines were accessed through steam pits open to the surface covered by a grate or manway. The underground steam lines were divided into three categories: Installed post-1991, Steam Chases, and Steam Tunnels. This report addresses the limited environmental survey of underground Steam Chases.

Every attempt was made to thoroughly evaluate and assess the presence and condition of suspect asbestos containing materials (ACM), lead-based paint (LBP), and other 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 Steam Chases, which included thermal system insulation (TSI) and related materials. The typical configuration observed along the Steam Chases were 2 pipes, one of a greater diameter and one of a smaller diameter (typically an 18 inch pipe and 12 inch pipe, or 12 inch pipe and 8 inch pipe, with some combinations including a 10 inch pipe, 4 inch pipe and 2 inch pipe sizes all estimated). Suspect materials along the pipe line included: elbows, expansion joints, paper, and insulation; non-suspect materials included foam and fiberglass insulation. Representative samples of homogeneous suspect ACM were collected from the sections of pipe lines accessible within pits. The samples were submitted to a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory for bulk analysis. Representative sampling did not identify ACM along the Steam Chases.

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

EDI performed a visual inspection of Steam Chases of suspect lead painted components. No painted components were identified along the Steam Chases.

EDI performed a visual survey of the Steam Chases for 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 hazardous materials were identified along the Steam Chases.

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-based paint, and other potential hazardous materials observed. The Base-Wide Steam Lines distribution system targeted for demolition included aboveground steam lines, underground steam lines, and associated Buildings. The underground steam lines were divided into three categories: Installed post-1991, Steam Chases, and Steam Tunnels. This report addresses the limited environmental survey of the Steam Chases.

The field survey was performed by Mr. Jason Janssen, Mr. Jose Aguilera, Mr. John Wellman, Mr. John Feely and Ms. Alpana Chaudhary on June 6-10 and 13-15, 2011. EDI field personnel returned to the Steam Chases to collect additional photographic documentation of the homogenous sampling areas (HAs), and gather additional samples on September 6, 2011. Licenses and certifications for EDI staff are provided in Appendix D.

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 Base-Wide Steam Lines (above ground steam lines, direct bury steam lines, steam tunnel and contents, steam pits and contents, associated buildings (1709, 11B, 11G, 11H, 135, 811, 811A, 6501, 6502, 6503, 6509), and utility trestles S4 and S3 scheduled for demolition. Areas (steam pipes) targeted for demolition were inspected; and samples were collected to determine the presence of asbestos, lead containing paint, and/or lead-based paint (LBP), and to identify other 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. Steam heat is distributed to many of the buildings on the Naval Station through underground steam pipes that can be accessed through numbered steam pits. 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 HAs per Steam Line grouping: Buildings, Aboveground Steam Lines, Steam Lines Installed Post-1991 (all underground), Steam Chases (all underground), and Steam tunnels (all underground). This report focuses on the findings from the visual and representative sampling of the Steam Chases. 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-303 through MD-305 as base drawings to show sample locations and ACM; no LBP identified.

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 was provided a steam and condensate distribution drawing (PWC DWG No. STM-10-9601) with steam tunnel and chase piping highlighted.

This report focuses on Steam Chases, identifying the representative piping TSI and associated HAs. Due to the nature and construction of the Steam Chases, piping and materials that comprised the Steam Chases were only accessible within the steam pits that intersect the Steam Chase distribution system. The typical configuration observed along the steam line runs was 2 pipes, one of a greater diameter and one of a smaller diameter (typically an 18 inch pipe and 12 inch pipe, or 12 inch pipe and 8 inch pipe, with some combinations including a 10 inch pipe, 4 inch pipe and 2 inch pipe, sizes all estimated). Piping was typically observed to be insulated; however bare piping was also observed. Suspect materials along the pipe line included TSI, elbows, expansion joints, paper, sealant, and black tar. Non-suspect materials along the pipe line included foam and fiberglass insulation.

1.3 Safety

The steam lines are active and located above and below ground. Steam lines carry hot water steam and cold water condensate return. The field inspection focused on the pipe wrap covering the steam pipes and other suspect materials associated with the steam lines. Underground steam lines were accessed through the steam pits and determined to be a permit-required confined space. Each pit was assessed for safe entry; some pits were determined unsafe for entry due to high temperatures (over 120 degrees F) or flooding or other limiting restrictions. 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. Confined space procedures were followed in the survey and 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 Steam Chases that might be affected by the Targeted Demolition of the Steam Lines. 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 Steam Chases
- Collection of bulk samples of identified suspect ACM per homogeneous material in accessible areas of the Steam Chases;
- 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 analytical report.

HAs 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 Steam Chases included the following suspect materials:

- TSI on 18 inch pipe, 12 inch pipe, 10 inch pipe, 8 inch pipe, 4 inch pipe and a 2 inch pipe
- Fittings;
- TSI Elbows; and
- Paper between metal jackets

The HAs associated with Steam Chases included the following non-suspect materials:

- Foam insulation
- Fiberglass insulation;

As part of field activities conducted September 6, 2011, EDI personel associated various HAs sampled during field activities conducted June 6-10 and 13-15, 2011 based upon visual inspection and laboratory results. HAs were associated to consoldate materials that were similar in color, texture, and general appearance that had been treated as sepeate HAs previously.

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 Table (Table 1) is presented in Appendix A with the September 6, 2011 Photo Logs of the Steam Chase. The Asbestos Sample Summary Table includes similar samples (same HA) from Steam Lines installed Post 1991. The last column in the table indicates the sample number per total samples collected representing that HA. Drawings of suspect ACM sample locations are presented in Appendix B. Site Piping Plan drawings MD303-305 show the Steam Chases and pits sampled, drawing MD-211 shows the approximate location of samples collected in pit 107, drawing MD-220 shows the approximate location of samples collected in pit 183. Asbestos laboratory results and certifications are presented in Appendix C. Worker licenses and certifications are attached in Appendix D.

The following materials were non-detect for asbestos:

- TSI on 18 inch pipe, 12 inch pipe, 10 inch pipe, 8 inch pipe, 4 inch pipe and 2 inch pipe
- TSI Elbows (including fittings) on: 18 inch pipes, 12 inch pipe, and 10 inch pipes, 8 inch pipe, 4 inch pipe and 2 inch pipe
- Paper between metal jackets

Asbestos was not identified in any of the samples collected and analyzed representing materials from the Steam Chases.

3.0 Paint Survey

3.1 Paint Survey Methodology

EDI conducted a visual inspection to identify representative painted components on the Steam Chases.

3.2 Paint Results

No painted components were identified along the Steam Chases. No tables or photographs are therefore applicable.

4.0 Hazardous Materials Survey

4.1 Hazardous Materials Survey Methodology

EDI performed a visual survey of the pits associated with Steam Chases for potential hazardous materials.

4.2 Hazardous Materials Results

There were no hazardous materials observed. No tables or photographs are applicable. If found, suspect hazardous materials should be removed, handled, and disposed of or stored in accordance with applicable federal, state, and local regulations. The following were not observed associated with Steam Chases: USTs, ASTs, or gas cylinders.

5.0 Findings and Recommendations

5.1 Asbestos Survey

Based on the visual inspection and bulk sample analysis results; ACM was not detected.

5.2 Paint Survey

No painted components were identified along the Steam Chases.

5.3 Hazardous Materials Survey

No suspect hazardous materials were identified in the environmental survey of Steam Chases.

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/demolition 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.

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 chrysotile, crocidolite, amosite, anthophyllite, tremolite 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 stalled 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.

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.

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.

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.

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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

Chase 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	Sample 1 of total per HA
Pit 14	18" Pipe	Insulation TSI	P-14-HA-29-86	ND	PLM	F	175 L.F. (Within Chase Steam Lines)	Good	1/4
Post 1991, Pit 416	TSI 18" pipe	Insulation TSI	P-416-HA1-01	ND	PLM	F		Good	2/4
Post 1991, Pit 410	TSI 18" pipe	Insulation TSI	P-410-HA1-02	ND	PLM	F		Good	3/4
Post 1991, Pit 417	TSI 18" pipe	Insulation TSI	P-417-HA1-03	ND	PLM	F		Good	4/4
Pit 14	12" Fitting	Insulation TSI	P-14-HA-32-95	ND	PLM	F	160 Fittings (Within Chase Steam Lines)	Good	1/5
Pit 34	12" Fitting	Insulation TSI	P-34-HA-32-96	ND	PLM	F		Good	2/5
Post 1991, Pit 422	TSI Elbow 12" pipe	TSI Elbow	P-422-HA11-31	ND	PLM	F		Good	3/5
Post 1991, Pit 422	TSI Elbow 12" pipe	TSI Elbow	P-422-HA11-32	ND	PLM	F		Good	4/5
Post 1991, Pit 422	TSI Elbow 12" pipe	TSI Elbow	P-422-HA11-33	ND	PLM	F		Good	5/5
Pit 14	Paper between metal jackets	Insulation TSI	P-14-HA-33-98	ND	PLM	F	175 L.F. (Within Chase Steam Lines)	Good	1/4
Post 1991, Pit 411	Paper Between metal jackets	Paper Between metal jackets	P-411-HA16-46	ND	PLM	F		Good	2/4

<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

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Post 1991, Pit 410	Paper Between metal jackets	Paper Between metal jackets	P-410-HA16-41	ND	PLM	F		Good	3/4
Post 1991, Pit 408	Paper Between metal jackets	Paper Between metal jackets	P-408-HA16-48	ND	PLM	F		Good	4/4
Pit 34	12" Fitting Wrap	Insulation TSI	P-34-HA-34-101	ND	PLM	F	1 Fitting (Within Chase Steam Lines)	Good	1/4
Tunnel, Pit 4	Orange Line (12" pipe diameter)	Black Paper Wrap Over Fiberglass	T-HA-3-07	ND	PLM	F		Good	2/4
Tunnel, Pit 4	Orange Line	Insulation TSI	T-HA-3-07 Layer 2	ND	PLM	F		Good	2/4
Tunnel, Pit 13	Orange Line (12" pipe diameter)	Black Paper Wrap Over Fiberglass	T-HA-3-08	ND	PLM	F		Good	3/4
Tunnel, Pit 143	Orange Line (12" pipe diameter)	Black Paper Wrap Over Fiberglass	T-HA-3-09	ND	PLM	F		Fair	4/4
Pit 150	White Insulation 4" fitting	Insulation TSI	P-150-HA-39-114	ND	PLM	F	16 Fittings	Good	1/4
Pit 150	White Insulation 4"	Insulation TSI	P-150-HA-39-115	ND	PLM	F		Good	2/4

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
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	fitting								
Pit 150	White Insulation 4" fitting	Insulation TSI	P-150-HA-39-116	ND	PLM	F		Good	3/4
Pit 107	4" TSI	Insulation TSI	P-107-HA-225-01	ND	PLM	F		Good	4/4
Pit 150	White Insulation 4" pipe	Insulation TSI	P-150-HA-40-117	ND	PLM	F	800 L.F.	Good	1/3
Pit 150	White Insulation 4" pipe	Insulation TSI	P-150-HA-40-118	ND	PLM	F		Good	2/3
Pit 150	White Insulation 4" pipe	Insulation TSI	P-150-HA-40-119	ND	PLM	F		Good	3/3
Pit 150	White Insulation 2" Pipe	TSI Elbow	P-150-HA-41-120	ND	PLM	F	800 L.F.	Good	1/3
Pit 150	White Insulation 2" Pipe	TSI Elbow	P-150-HA-41-121	ND	PLM	F		Good	2/3
Pit 150	White Insulation 2" Pipe	Insulation TSI	P-150-HA-41-122	ND	PLM	F		Good	3/3

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
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Pit 150	White Insulation 2" fitting	Insulation TSI	P-150-HA-42-123	ND	PLM	F	14 Fittings	Good	1/3
Pit 150	White Insulation 2" fitting	Insulation TSI	P-150-HA-42-124	ND	PLM	F		Good	2/3
Pit 150	White Insulation 2" fitting	Insulation TSI	P-150-HA-42-125	ND	PLM	F		Good	3/3
Pit 93	18" Pipe TSI	Insulation TSI/ VISUALLY IDENTIFIED AS FIBER GLASS ON RE-VISIT	P-93-HA-222-01	ND	PLM	F	20 L.F.	Good	1/1
Pit 93	18" TSI Elbow	Insulation TSI	P-93-HA-223-01	ND	PLM	F	170 Elbows and Fittings	Good	1/6
Pit 107	18" TSI Elbow	Insulation TSI	P-107-HA-223-02	ND	PLM	F		Good	2/6
Pit 104	18" TSI Elbow	Insulation TSI	P-104-HA-223-03	ND	PLM	F		Good	3/6
Pit 107	18" TSI	Insulation TSI	P-107-HA-223-04	ND	PLM	F		Good	4/6

<u>Results</u>	<u>Type</u>	<u>Test Method</u>	<u>Friability</u>	<u>Condition</u>
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Pit 14	18" Fitting	Insulation TSI	P-14-HA-30-89	ND	PLM	F		Good	5/6
Pit 34	18" Fitting	Insulation TSI	P-34-HA-30-90	ND	PLM	F		Good	6/6
Pit 107	12" TSI	Insulation TSI	P-107-HA-224-01	ND	PLM	F	700 L.F.	Good	1/4
Pit 104	12" TSI	Insulation TSI	P-104-HA-224-02	ND	PLM	F		Good	2/4
Pit 107	12" TSI	Insulation TSI	P-107-HA-224-03	ND	PLM	F		Good	3/4
Pit 14	12" Pipe TSI	Insulation TSI	P-14-HA-31-92	ND	PLM	F		Good	4/4
Pit 111	12" Pipe TSI	Insulation TSI	P-111-HA-221-01	ND	PLM	F	3,000 L.F.	Good	1/5
Pit 119	12" Pipe TSI	Insulation TSI	P-119-HA-226-01	ND	PLM	F		Good	2/5
Pit 124	12" Pipe TSI	Insulation TSI	P-124-HA-226-02	ND	PLM	F		Good	3/5
Pit 112	12" Pipe TSI	Insulation TSI	P-112-HA-229-01	ND	PLM	F		Good	4/5
Pit 112	12" Pipe TSI	Insulation TSI	P-112-HA-229-02	ND	PLM	F		Good	5/5

<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: Crocidolite 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

Chase 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	Sample 1 of total per HA
Pit 111	8" Pipe TSI	Insulation TSI	P-111-HA-220-01	ND	PLM	F	4,000 L.F.	Good	1/8
Pit 112	8" Pipe TSI	Insulation TSI	P-112-HA-230-01	ND	PLM	F		Good	2/8
Pit 191	8" Pipe TSI	Insulation TSI	P-191-HA-230-02	ND	PLM	F		Good	3/8
Pit 196	8" TSI	Insulation TSI	P-196-HA-232-01	ND	PLM	F		Good	4/8
Pit 199	8" TSI	Insulation TSI	P-199-HA-232-02	ND	PLM	F		Good	5/8
Pit 199A	8" TSI	Insulation TSI	P-199A-HA-232-03	ND	PLM	F		Good	6/8
Pit 119	8" TSI	Insulation TSI	P-119-HA-233-01	ND	PLM	F		Good	7/8
Pit 124	8" TSI	Insulation TSI	P-124-HA-233-02	ND	PLM	F		Good	8/8
Pit 183	12" TSI	Insulation TSI	P-183-HA-231-01	ND	PLM	F	1,000 L.F.	Good	1/4
Pit 183	12" TSI	Insulation TSI	P-183-HA-231-02	ND	PLM	F		Good	2/4
Pit 196	12" TSI	Insulation TSI	P-196-HA-231-03	ND	PLM	F		Good	3/4
Pit 199	12" TSI	Insulation TSI	P-199-HA-231-04	ND	PLM	F		Good	4/4

<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

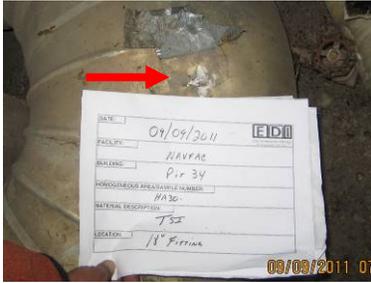
Table 1. Asbestos Sample Summary Table

Chase Steam Lines
 Naval Station Great Lakes
 Great Lakes, Illinois

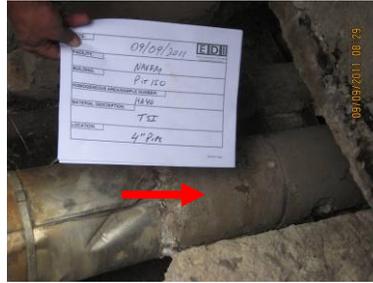
Location	Homogenous Area Description	Sampled Material Description	Sample ID	Results (% and type)	Test Method	Friability	Approx. Quantity Square feet (s.f) Linear feet (l.f.)	Condition	Sample 1 of total per HA
Pit 183	10" YELLOW TSI	Insulation TSI	P-183-HA-300-01	ND	PLM	F	100 L.F.	Good	1/3
Pit 183	10" YELLOW TSI	Insulation TSI	P-183-HA-300-02	ND	PLM	F		Good	2/3
Pit 183	10" YELLOW TSI	Insulation TSI	P-183-HA-300-03	ND	PLM	F		Good	3/3
Pit 183	10" GREY TSI	Insulation TSI	P-183-HA-301-04	ND	PLM	F	100 L.F.	Good	1/3
Pit 183	10" GREY TSI	Insulation TSI	P-183-HA-301-05	ND	PLM	F		Good	2/3
Pit 183	10" GREY TSI	Insulation TSI	P-183-HA-301-06	ND	PLM	F		Good	3/3

<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

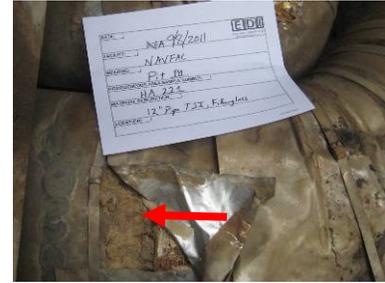
Naval Station Great Lakes
 Photo Log of Chase Steam Lines
 September 9, 2011
 Photographed by Jose Aguilera & Jason Janssen



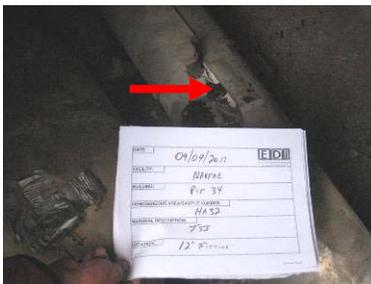
HA30: 18" fitting TSI, at pit 34



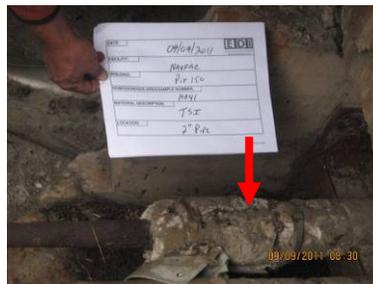
HA40: 4" pipe TSI, at pit 150



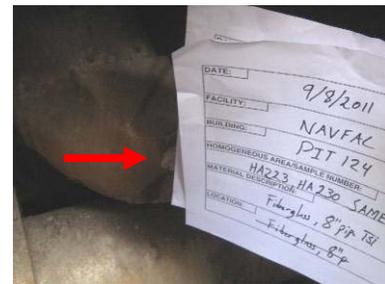
HA221: 12" pipe TSI, fiberglass, at pit 111



HA32: 12" fitting TSI, at pit 34



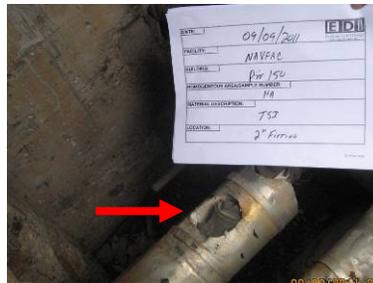
HA41: 2" pipe TSI, at pit 150



HA223 & HA230: 8" pipe TSI, fiberglass, at pit 124.
 HA materials identical



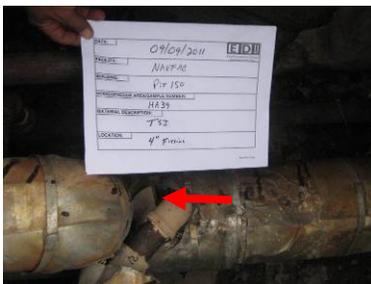
HA34: Paper between jacketing, 12" pipe



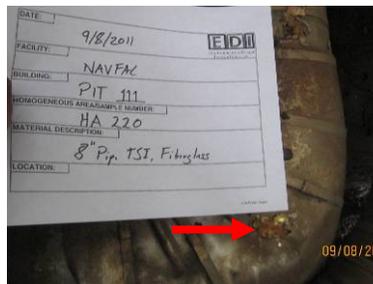
HA42: 2" pipe fitting, at pit 150



HA224: 12" pipe TSI, at pit 107



HA39: 4" fitting TSI, at pit 150



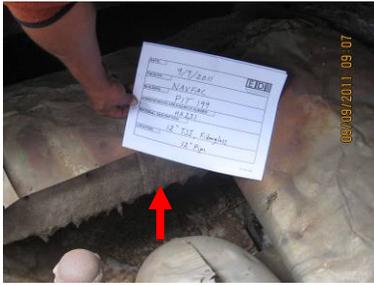
HA220: 8" pipe TSI, fiberglass, at pit 111



HA226 & HA229: 12" pipe TSI, fiberglass, at pit 124.
 HA materials identical

Naval Station Great Lakes
 Photo Log of Chase Steam Lines
 September 9, 2011

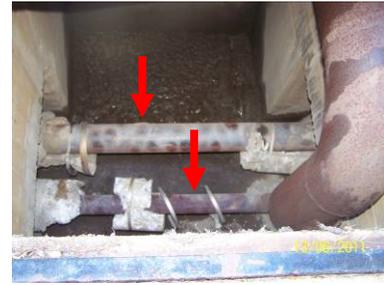
Photographed by Jose Aguilera & Jason Janssen



HA231: 12" TSI, fiberglass, at pit 199



Pit 31: Note two steam lines entering pit from pit 30



Pit 147: Two steam lines entering pit from pit 146 & continuing to pit 148



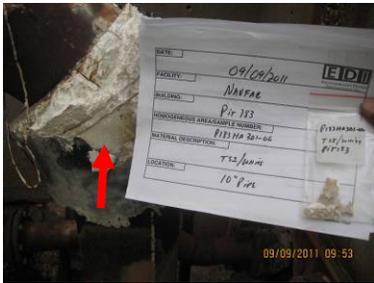
HA232: 8" TSI, fiberglass, at pit 199



Pit 30: Two steam lines entering pit from pit 31 & continuing to pit 29



Pit 148: Two steam lines entering from pit 147, branching west to Building 4, & continuing to pit 149



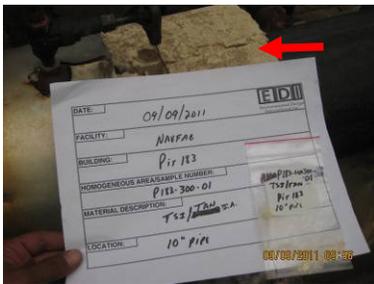
HA301: 10" pipe TSI, white, at pit 183



Pit 29: Two steam lines entering pit from pit 30 & continuing east to pit 28



Pit 149: Two steam lines entering from pit 148 & continuing to pit 150

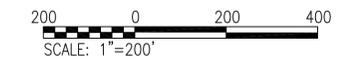
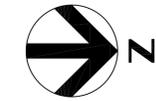


HA300: 10" pipe TSI, tan, at pit 183

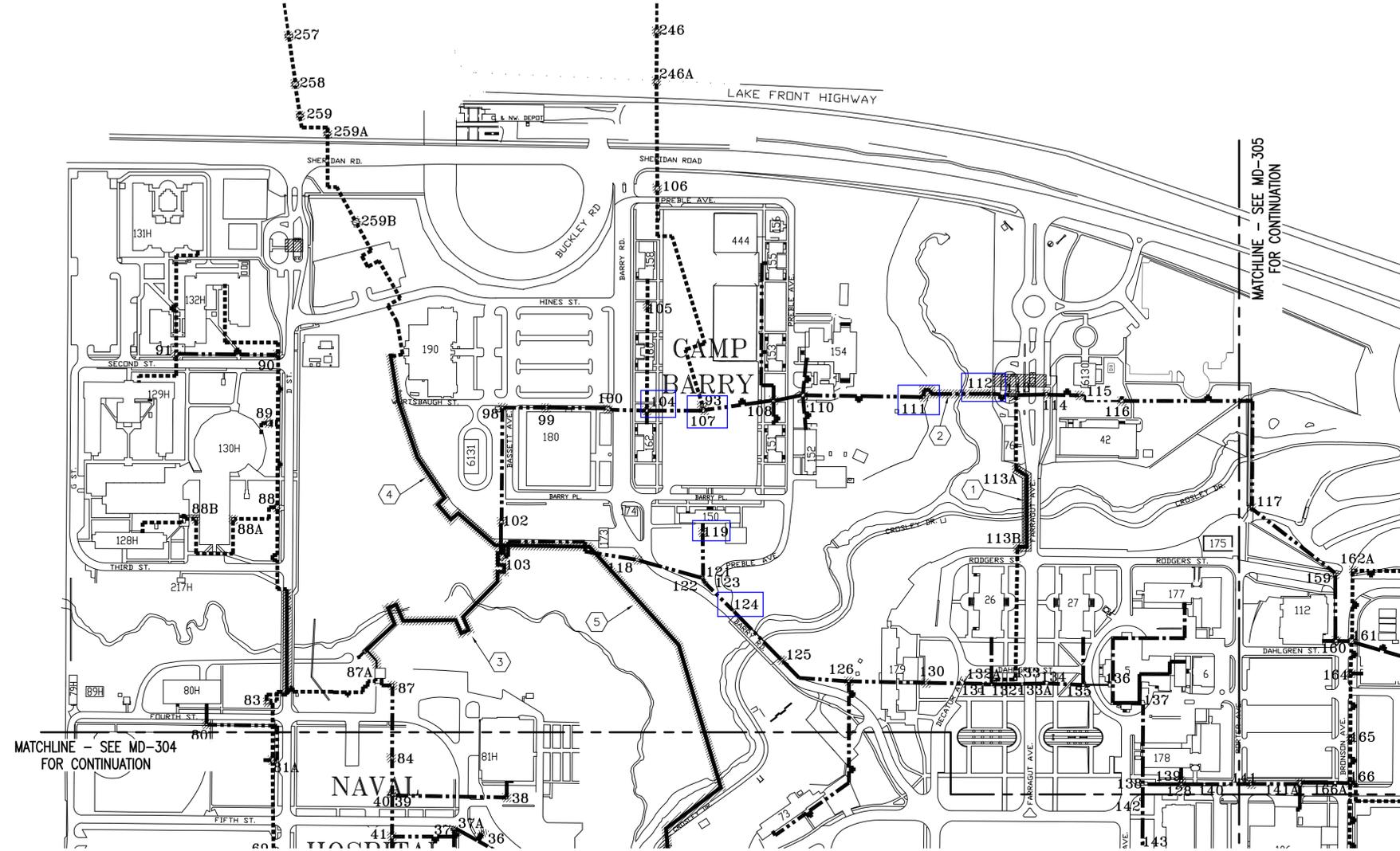


Pit 111: Note two steam lines entering pit from east then turning south

Appendix B: Asbestos Sample Location Drawings



No ACM found in samples collected along Chases

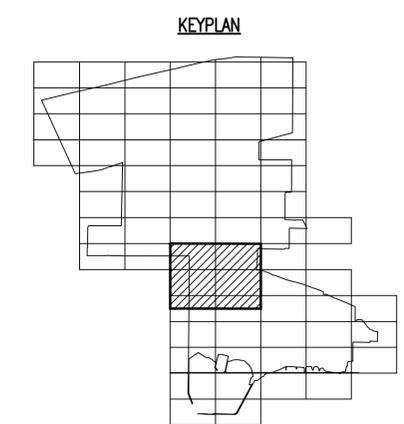


- GENERAL NOTES:
- DIRECT BURIED PIPING TO BE ABANDONED IN PLACE.
 - SITE DISTRIBUTION DEMOLITION DRAWINGS UTILIZE NAVY PUBLIC WORKS DRAWING NUMBERS GL-10-9601 AND GL-10-9602 AS REFERENCE FOR THE SITE DISTRIBUTION SYSTEM.

- 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.

□ Samples collected at these pits for ACM.
 Results indicate no asbestos in Chases.

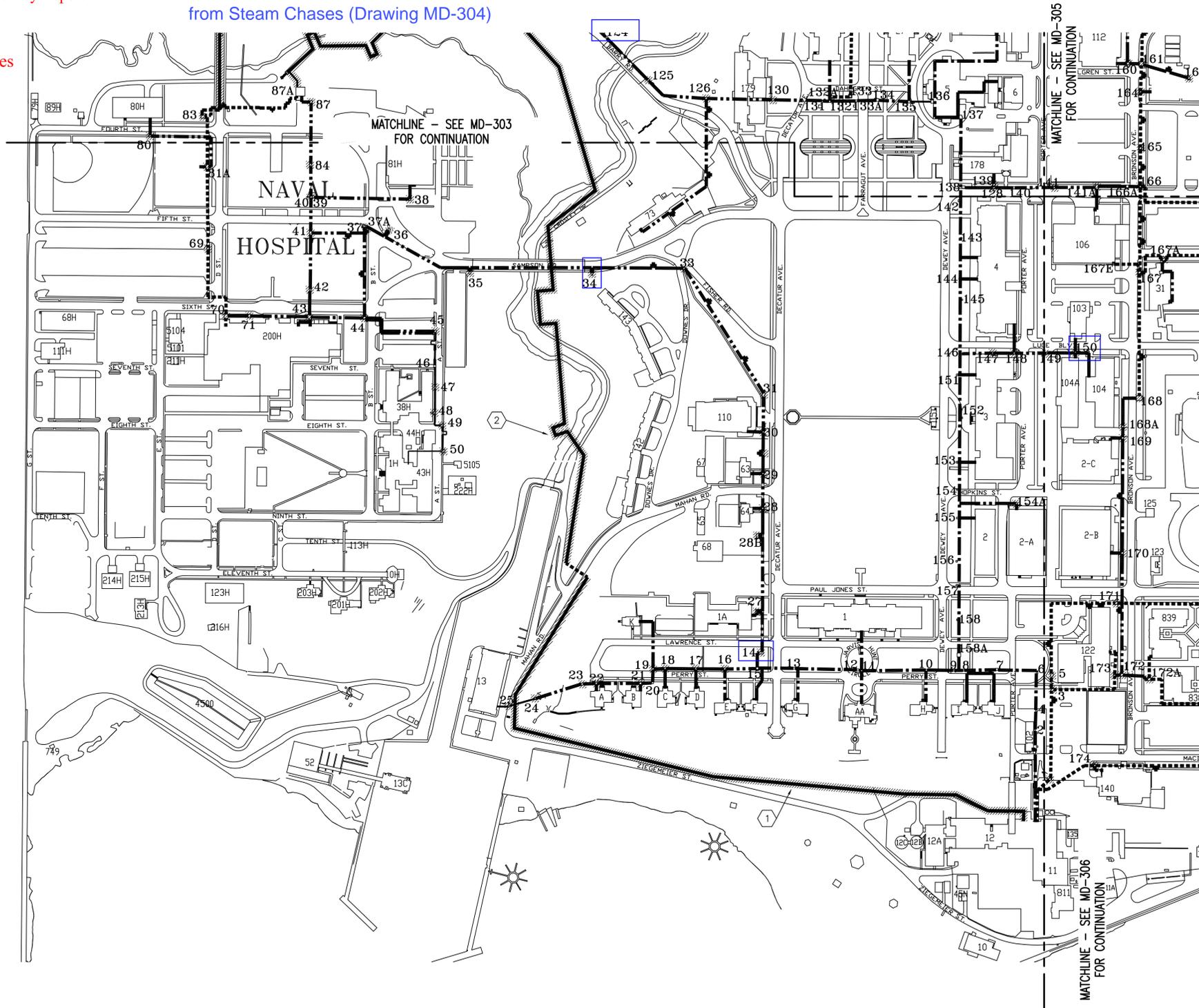
- LEGEND
- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
 - - - INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
 - · · · · INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
 - - - - - INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
 - ▨ INDICATES DEMOLITION
 - X INDICATES STEAM PIT TO BE DEMOLISHED



APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC	ACTIVITY	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 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\csmo\0867328\MD-303.dwg PLOT NAME: Plt PLOTTED: Wednesday, June 15, 2011 - 11:27am USER: itemk

No ACM found in samples
 collected along Chases



200 0 200 400
 SCALE: 1"=200'

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.

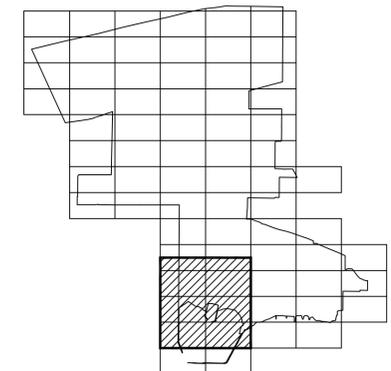
KEYED NOTES:

- 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.

□ Samples collected at these pits
 for ACM.
 Results indicate no asbestos in Chases.

- 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

KEYPLAN



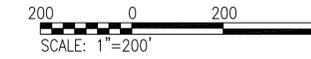
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FOR COMMANDER NAVFAC	ACTIVITY	35% DESIGN SUBMITTAL
SATISFACTORY TO	DATE	
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<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH	XXX	
<<DD>>		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC 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-304		
DRAWING REVISION: 10 MARCH 2009		

PRELIMINARY
 NOT FOR CONSTRUCTION



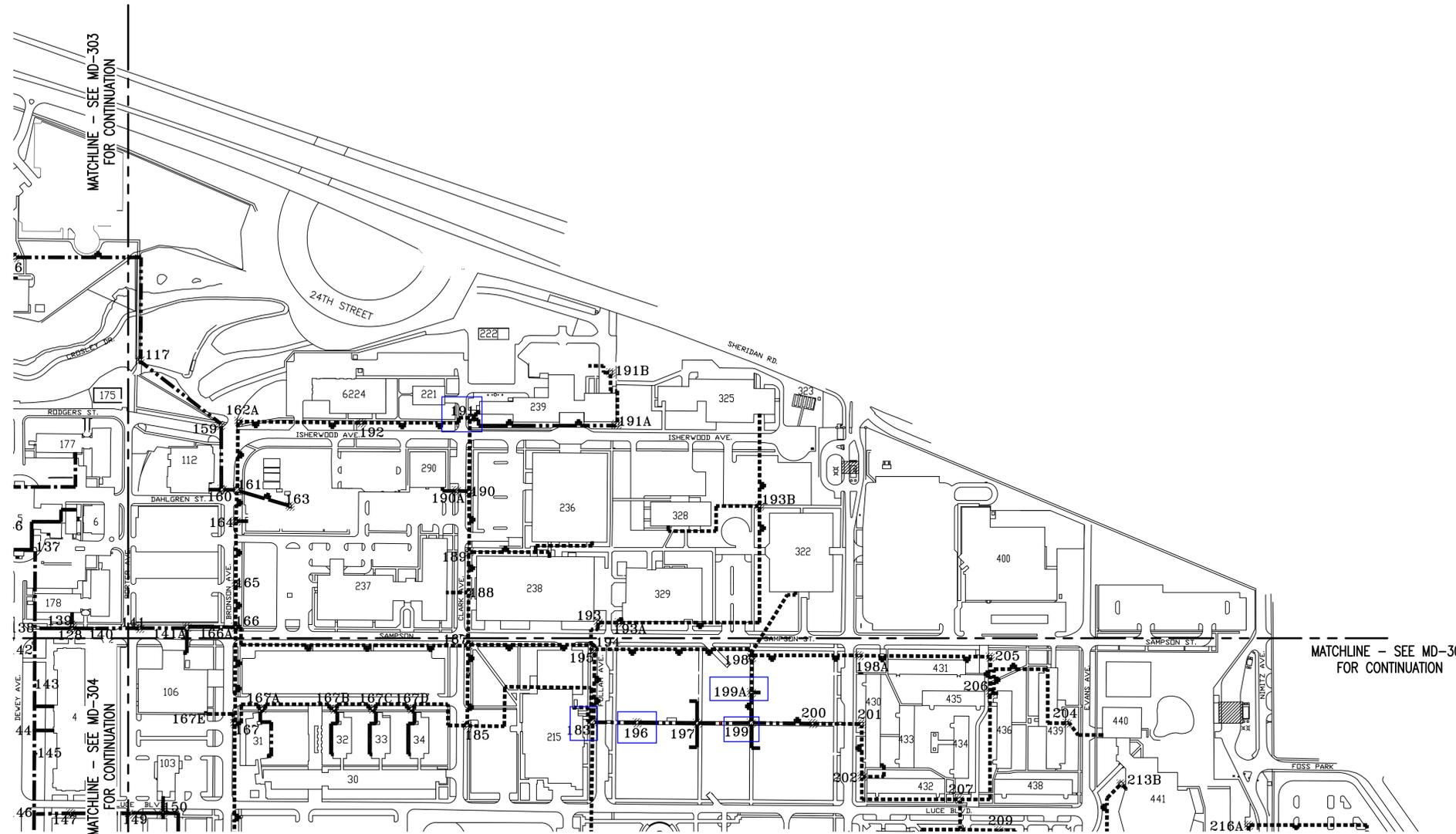
No ACM found in samples collected along Chases

Drawing 3: EDI General Suspect ACM Sample locations
 from Steam Chases (Drawing MD-305)



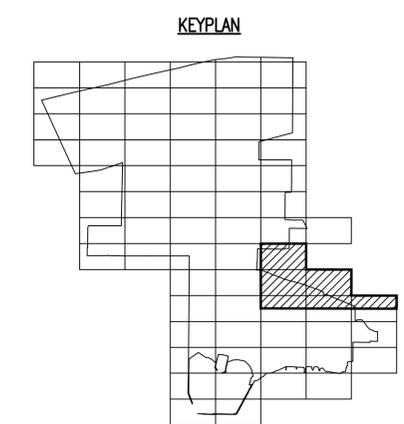
GENERAL NOTES:

- 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.



☐ Samples collected at these pits for ACM.
 Results indicate no asbestos in Chases.

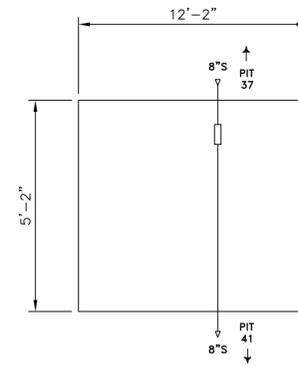
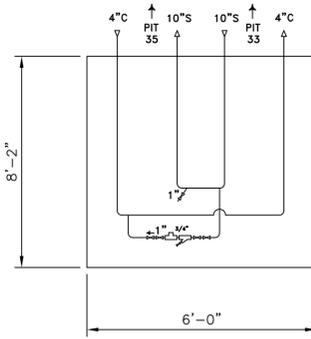
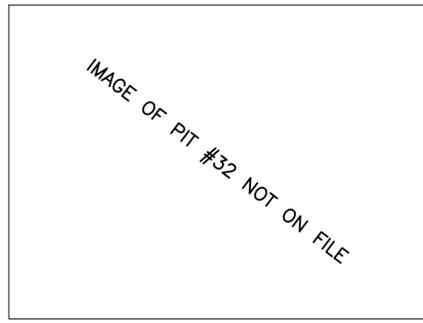
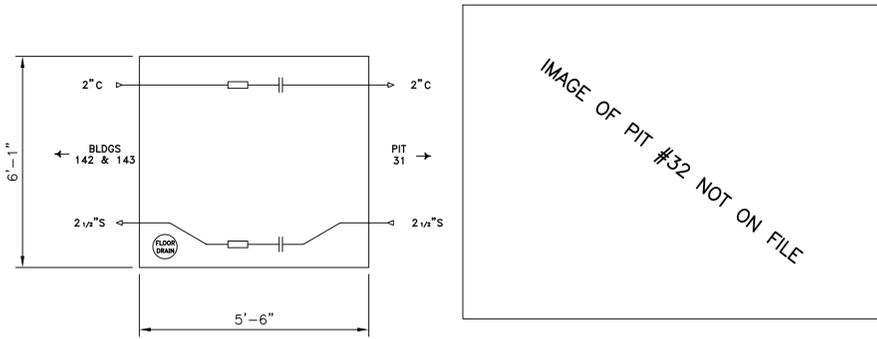
- LEGEND
- INDICATES STEAM AND CONDENSATE PIPING ABOVE GROUND
 - - - INDICATES STEAM AND CONDENSATE PIPING IN PIPE CHASE
 - · · · · INDICATES STEAM AND CONDENSATE PIPING DIRECT BURIED
 - - - - - INDICATES STEAM AND CONDENSATE PIPING IN TUNNEL
 - ▨ INDICATES DEMOLITION
 - ☐ XXX INDICATES STEAM PIT TO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



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 STATION GREAT LAKES, IL
NAVAL FACILITIES ENGINEERING COMMAND	MIDWEST	P-816 STEAM DECENTRALIZATION B-11
PUBLIC WORKS DEPARTMENT	INSL GREAT LAKES, ILLINOIS	SITE PIPING PLAN
SCALE:	AS NOTED	
PROJECT NO.:	#####	
CONSTR. CONTR. NO.	#####	
NAVFAC DRAWING NO.	#####	
SHEET #	OF #	
MD-305		
<small>DRAWFORM REVISION: 10 MARCH 2009</small>		

FILE NAME: C:\pwworking\csm\0867328\MD-305.dwg LAYOUT NAME: Plot PLOTTED: Wednesday, June 15, 2011 - 11:28am USER: lemke

**Drawing 4: EDI Suspect ACM Sampling Locations
Steam Chases
Pit 34**



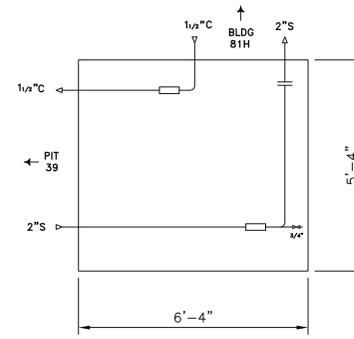
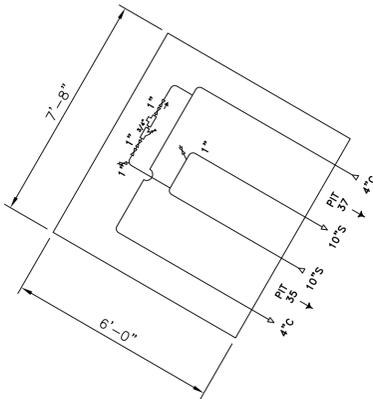
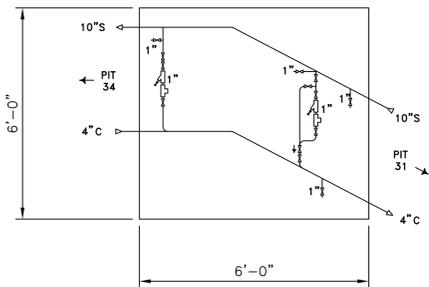
PIT #32
NOT TO SCALE



PIT #35
NOT TO SCALE



PIT #37A
NOT TO SCALE



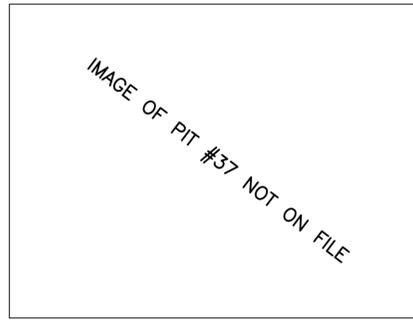
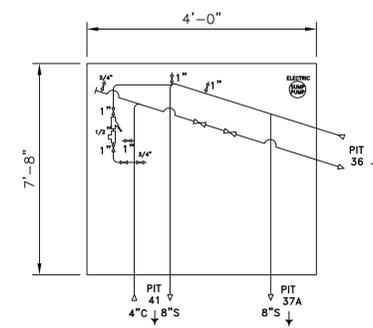
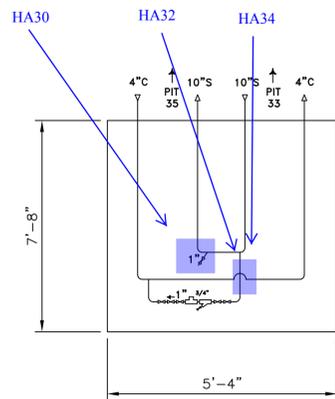
PIT #33
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PIT #36
NOT TO SCALE



PIT #38
NOT TO SCALE



PIT #34
NOT TO SCALE



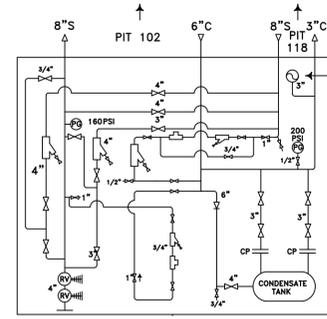
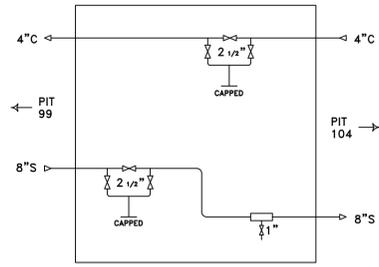
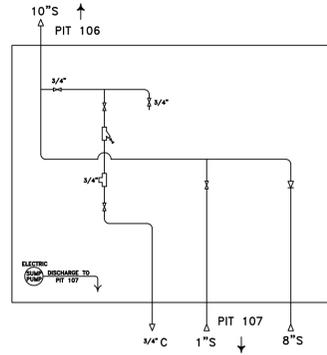
PIT #37
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FILE NAME: C:\pawel\working\csmo\0867328\MD-205.dwg LAYOUT NAME: Pit_PLOTTED: Wednesday, June 15, 2011 - 11:14am USER: itemko

APPROVED	DATE	APP'R
35% DESIGN SUBMITTAL		
PRELIMINARY NOT FOR CONSTRUCTION		
APPROVED: _____ FOR COMMANDER NAVFAC ACTIVITY: _____ SATISFACTORY TO: _____ DATE: _____ DES: _____ DRW: _____ CHK: _____ BRANCH MANAGER: _____ CHIEF ENG/ARCH: _____ 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 STEAM PIT DEMOLITION		
SCALE: AS NOTED PROJECT NO.: ##### CONSTR. CONTR. NO.: ##### NAVFAC DRAWING NO.: ##### SHEET # OF ##		
MD-205 <small>DRAWFORM REVISION: 10 MARCH 2009</small>		

Drawing 5: EDI Suspect ACM Sampling Locations
Steam Chases
Pit 104



PIT #93
NOT TO SCALE



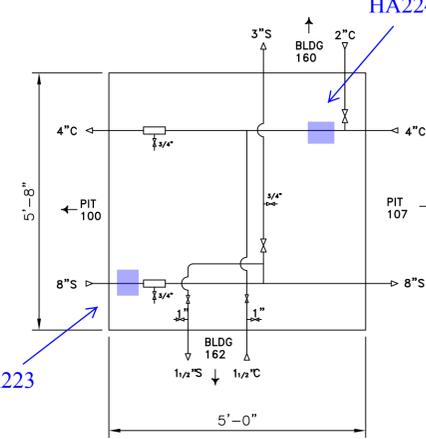
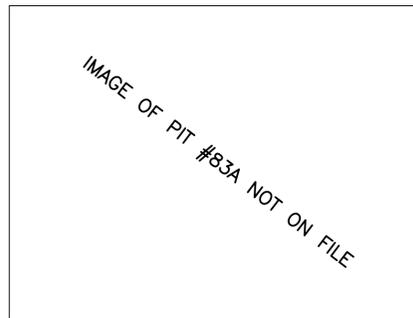
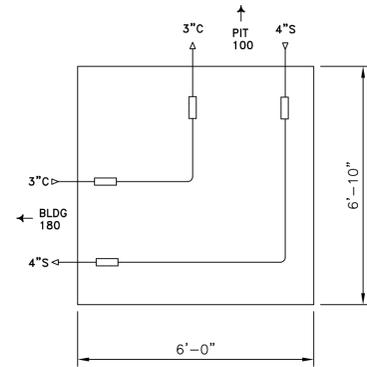
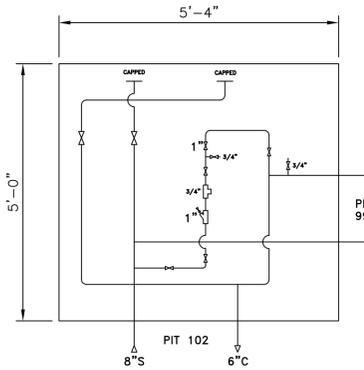
PIT #100
NOT TO SCALE



PIT #103
NOT TO SCALE



Fiberglass TSI observed



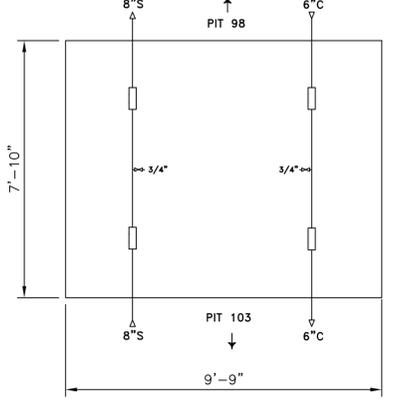
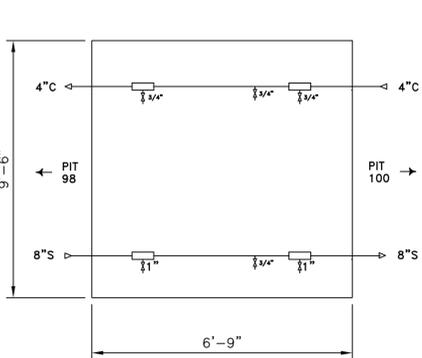
PIT #98
NOT TO SCALE



PIT #101
NOT TO SCALE



PIT #104
NOT TO SCALE



PIT #99
NOT TO SCALE



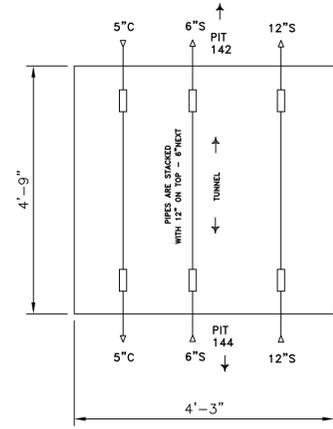
PIT #102
NOT TO SCALE



APPROVED	DATE	APP'R
35% DESIGN SUBMITTAL	DESCRIPTION	SYN
<p>PRELIMINARY NOT FOR CONSTRUCTION</p>		
<p>APPROVED FOR COMMANDER NAVFAC</p> <p>ACTIVITY</p> <p>SATISFACTORY TO DATE</p> <p>DES: _____ DRW: _____ CHK: _____</p> <p>BRANCH MANAGER</p> <p>CHIEF ENG/ARCH: XXX</p> <p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PUBLIC WORKS DEPARTMENT NAVAL STATION GREAT LAKES GREAT LAKES, IL</p> <p>P-816 STEAM DECENTRALIZATION B-11</p> <p>STEAM PIT DEMOLITION</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-210</p> <p>DRAWFORM REVISION: 10 MARCH 2009</p>		

FILE NAME: C:\paworking\csmo\d0662328\MD-210.dwg LAYOUT NAME: Pit_PLOTTED: Wednesday, June 15, 2011 - 11:18am USER: itemk

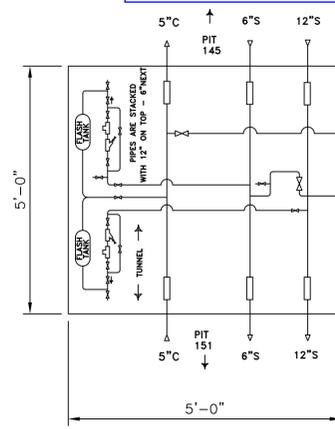
Report: Limited Environmental Survey Report
Steam Chases, February 2012



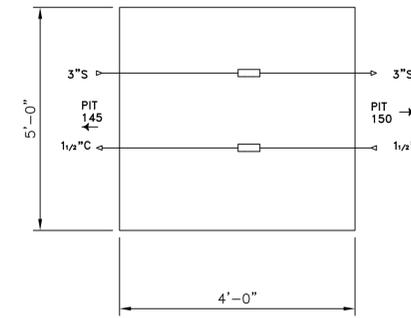
PIT #143
NOT TO SCALE



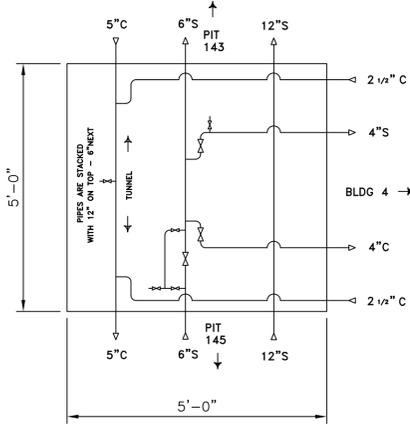
**Drawing 7: EDI Suspect ACM Sampling Locations
Steam Chases
Pit 150**



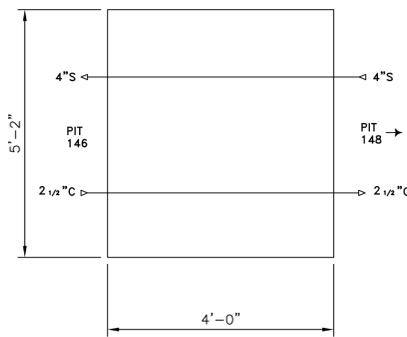
PIT #146
NOT TO SCALE



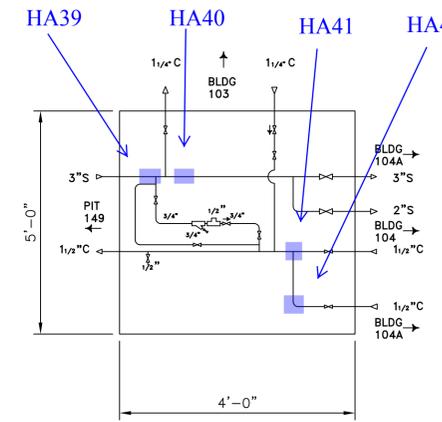
PIT #149
NOT TO SCALE



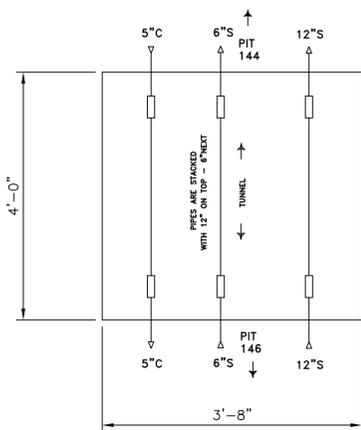
PIT #144
NOT TO SCALE



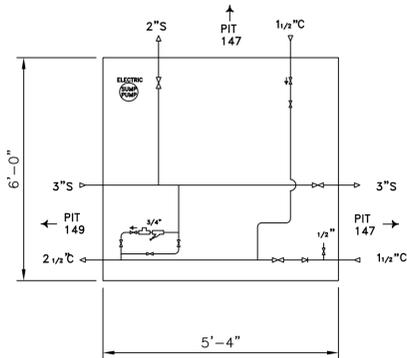
PIT #147
NOT TO SCALE



PIT #150
NOT TO SCALE



PIT #145
NOT TO SCALE



PIT #148
NOT TO SCALE



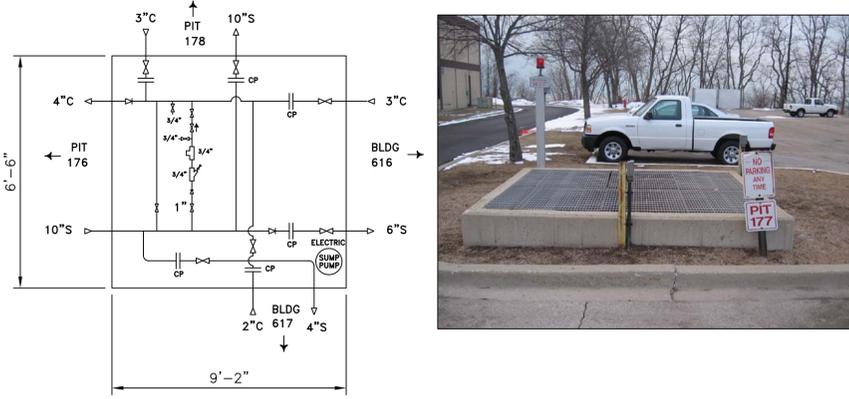
**PRELIMINARY
NOT FOR CONSTRUCTION**

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

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND	MIDWEST
PUBLIC WORKS DEPARTMENT	INSUL. GREAT LAKES, ILLINOIS
NAVAL STATION GREAT LAKES	GREAT LAKES, IL
P-816 STEAM DECENTRALIZATION B-11	
STEAM PIT DEMOLITION	
SCALE:	AS NOTED
PROJECT NO.:	#####
CONSTR. CONTR. NO.	#####
NAVFAC DRAWING NO.	#####
SHEET #	OF ##
MD-215	
DRAWFORM REVISION: 10 MARCH 2009	

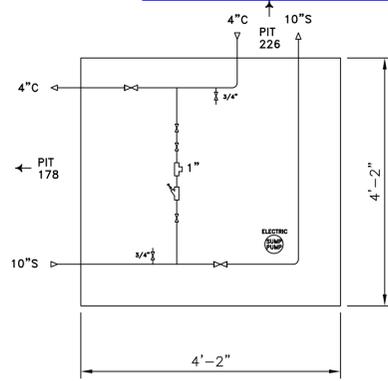
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Report: Limited Environmental Survey Report
Steam Chases, February 2012

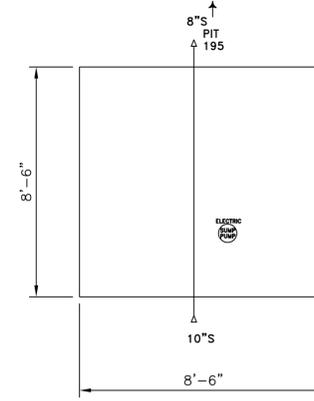


PIT #177
NOT TO SCALE

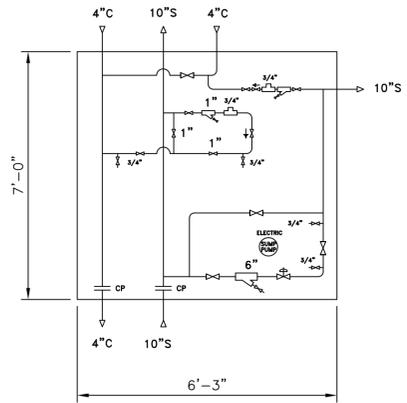
EDI Suspect ACM Sampling Locations
Steam Chases
Pit 183



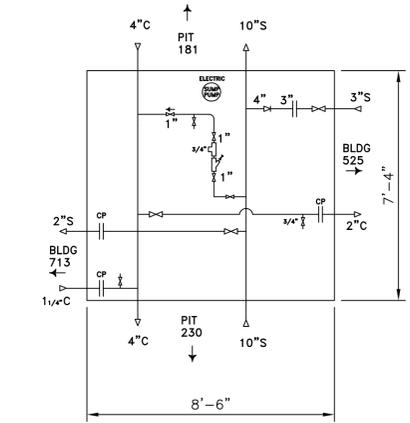
PIT #179
NOT TO SCALE



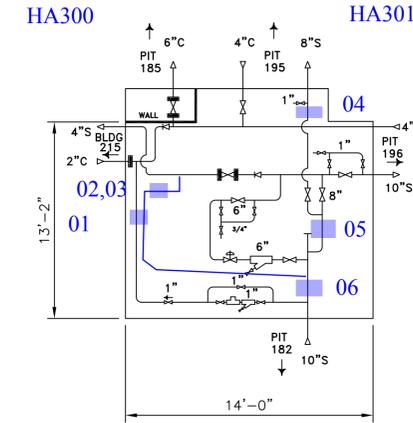
PIT #182
NOT TO SCALE



PIT #178
NOT TO SCALE



PIT #180
NOT TO SCALE

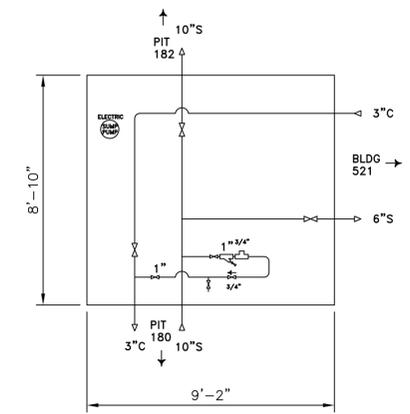


PIT #183
NOT TO SCALE

■ Samples collected for ACM
— Steam Line observed in Chase not shown on drawing.

DRAWING OF PIT #B3A NOT ON FILE

PIT #178A
NOT TO SCALE



PIT #181
NOT TO SCALE

APPROVED	DATE	APP'R
35% DESIGN SUBMITTAL	DESCRIPTION	SP#
PRELIMINARY NOT FOR CONSTRUCTION		
A/E INFO		
APPROVED		
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	CHK
DES	DRW	CHK
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH		
<<XXX>>		
<<OOO>>		
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 STEAM PIT DEMOLITION		
SCALE: AS NOTED		
PROJECT NO.: #####		
CONSTR. CONTR. NO.		
#####		
NAVFAC DRAWING NO.		
SHEET # OF ##		
MD-220 DRAWFORM REVISION: 10 MARCH 2009		

FILE NAME: C:\pwworking\cma\0667328\MD-220.dwg LAYOUT NAME: Pit_PLOTTED: Wednesday, June 15, 2011 - 11:22am USER: itemk

Appendix C: Asbestos Laboratory Results and Certifications

CERTIFICATE OF ANALYSIS

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

Report Date: 6/14/2011
Report No.: 243029
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4328488
Client No.: P-13-HA-28-83
Description / Location: White Insulation
10" Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
12	Chrysotile	None Detected	None Detected	88

Lab No.: 4328489
Client No.: P-14-HA-29-86
Description / Location: Off-White Insulation
18" Pipe

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	12	Cellulose	88

X **Lab No.:** 4328490
Client No.: P-14-HA-30-89
Description / Location: Yellow Insulation
18" Fitting

<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

X **Lab No.:** 4328491
Client No.: P-34-HA-30-90
Description / Location: White Insulation
18" Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Fibrous Glass	98

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188
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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: R. Caran

Date: 6/14/2011

X Samples from Chases
June 2011

CERTIFICATE OF ANALYSIS

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

Report Date: 6/14/2011
Report No.: 243029
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

X **Lab No.:** 4328492 **Description / Location:** Yellow Insulation
Client No.: P-14-HA-31-92 12" Pipe

<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

X **Lab No.:** 4328493 **Description / Location:** Yellow Insulation
Client No.: P-14-HA-32-95 12" Fitting

<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

X **Lab No.:** 4328494 **Description / Location:** White Insulation
Client No.: P-34-HA-32-96 12" Fitting

<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

X **Lab No.:** 4328495 **Description / Location:** Brown Fibrous
Client No.: P-14-HA-33-98 Paper Between Metal Sheets

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	100	Cellulose	None Detected

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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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: R. Caran

Date: 6/14/2011

CERTIFICATE OF ANALYSIS

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

Report Date: 6/14/2011
Report No.: 243029
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

X **Lab No.:** 4328496 **Description / Location:** Brown/Black Wrap
Client No.: P-34-HA-34-101 12" Fitting

<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	Cellulose	20

Lab No.: 4328497 **Description / Location:** White Insulation
Client No.: P-412-HA-200-01 8" Pipe

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Cellulose	98

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188
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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: R. Caran

Date: 6/14/2011



Environmental Design
International inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

33 W. Monroe Street, Suite 1825
Chicago, Illinois 60603
Phone: 312-345-1400
Fax: 312-345-0529

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.		2. Sampling Site Address/Contact Telephone No.		6. Date Results Needed										Indicate Analysis Requested		Laboratory Number						
3. Sampled by (Signature) <i>J. Janssen / 1602-029</i>		4. # of Samples in Shipment		5. Date of Sample Shipment																		
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		
1	P-410- HA-17-49	Gray Pipe Seals	X					X						X		6/7					X	4328473
2	P-408- HA-17-50	Gray Pipe Seals																				4328474
3	P-405- HA-17-51	Gray Pipe Seals																				4328475
4	P-2- HA-18-52	TSE																				4328476
5	P-2- HA-19-55	Black Pipe - Unif														6/8						4328477
6	P-6- HA-20-58	Fiber Glass Wrap 12"																				4328478
7	P-6- HA-21-61	Fiber Glass Wrap 10"																				4328479
8	P-6- HA-22-64	18" Fittings																				4328480
9	P-6- HA-23-67	12" Fittings																				4328481
10	P-6- HA-24-70	10" Fittings																				4328482
Time In:			Total Hours:			Signature:			Released by (Signature)			Date/Time Released			Company/Agency Affiliation			Condition Noted				
Released by (Signature) <i>J. Janssen</i>			Date/Time Released 6/10/11 0800			Delivery Method			To Archive/Disposal													
Comments:																						



Environmental Design International inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

33 W. Monroe Street, Suite 1825
Chicago, Illinois 60603
Phone: 312-345-1400
Fax: 312-345-0529

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. <i>J. Janssen / 167 1602-029</i>		2. Sampling Site Address/Contact Telephone No. <i>Naval Station Great Lakes</i>		Indicate Analysis Requested		Laboratory Number																					
3. Sampled by (Signature) <i>J. Janssen</i>		4. # of Samples in Shipment <i>167</i>		5. Date of Sample Shipment <i>6/8</i>		6. Date Results Needed																					
Item No	Sample Number	Sample Location/Description	Matrix							GRAB	WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved				Date	Sampling Time	VOLUME (L)	TIME (Minutes)	# of Containers	Laboratory Number		
			COMP	H2SO4	HNO3	HCl	OTHER	ICE	NONE							OTHER											
1	P-4- HA-25-73	2" Pipe / valves Fitting	X																								4328483
2	P-9- HA-26-76	Fittings. Wmp / valves / FSI	X																								4328484
3	P-9- HA-26-77	Fitting values	X																								4328485
4	P-9- HA-26-79	Fitting on valves	X																								4328486
5	P-9- HA-27-80	2 feet value Wmp / FSI	X																								4328487
6	P-13- HA-28-83	10" Fitting	X																								4328488
7	P-14- HA-29-86	18" Pipe	X																								4328489
8	P-14- HA-30-89	18" Fitting	X																								4328490
9	P-34- HA-30-90	18" Fitting	X																								4328491
10	P-14- HA-31-92	12" Pipe	X																								4328492
Time in:		Time Out:		Total Hours:		Signature:		Print Name:		Released by (Signature)		Date/Time Released		Company/Agency Affiliation		Condition Noted											
Released by (Signature) <i>J. Janssen</i>		Date/Time Released <i>6/8/00</i>		Delivery Method		To Archive/Disposal																					
Comments:																											

CERTIFICATE OF ANALYSIS

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

Report Date: 6/20/2011
Report No.: 243657
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335081
Client No.: P-155-HA-37-110

Description / Location: Tan Insulation
12" Valve, Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	15	Mineral Wool	75

Lab No.: 4335082
Client No.: P-146-HA-37-111

Description / Location: Grey/Black Insulation/Tar
12" Valve, Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
15	Chrysotile	20	Mineral Wool	65

Lab No.: 4335083
Client No.: P-137-HA-37-112

Description / Location: White/Black Insulation
12" Valve, Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
0.50	Chrysotile	None Detected	None Detected	PC 79.5
20	Amosite			

Lab No.: 4335084
Client No.: P-150-HA-39-114

Description / Location: White/Tan Insulation
4" Fitting

<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	Mineral Wool	95

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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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: V. Smith

Date: 6/20/2011

CERTIFICATE OF ANALYSIS

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

Report Date: 6/20/2011
Report No.: 243657
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

<p>X Lab No.: 4335085 Client No.: P-150-HA-39-115</p>	<p>Description / Location: White Insulation 4" Fitting</p>	
<p><u>% Asbestos</u> <u>Type</u></p> <p>None Detected None Detected</p>	<p><u>% Non-Asbestos Fibrous Material</u></p> <p>Trace Trace</p>	<p><u>Type</u></p> <p>Synthetic Mineral Wool</p> <p><u>% Non-Fibrous Material</u></p> <p>100</p>

<p>X Lab No.: 4335086 Client No.: P-150-HA-39-116</p>	<p>Description / Location: Lt. Tan Insulation 4" Fitting</p>	
<p><u>% Asbestos</u> <u>Type</u></p> <p>None Detected None Detected</p>	<p><u>% Non-Asbestos Fibrous Material</u></p> <p>10</p>	<p><u>Type</u></p> <p>Synthetic</p> <p><u>% Non-Fibrous Material</u></p> <p>90</p>

<p>X Lab No.: 4335087 Client No.: P-150-HA-40-117</p>	<p>Description / Location: White Insulation 4" Pipe</p>	
<p><u>% Asbestos</u> <u>Type</u></p> <p>None Detected None Detected</p>	<p><u>% Non-Asbestos Fibrous Material</u></p> <p>10</p>	<p><u>Type</u></p> <p>Synthetic</p> <p><u>% Non-Fibrous Material</u></p> <p>90</p>

<p>X Lab No.: 4335088 Client No.: P-150-HA-40-118</p>	<p>Description / Location: White Insulation 4" Pipe</p>	
<p><u>% Asbestos</u> <u>Type</u></p> <p>None Detected None Detected</p>	<p><u>% Non-Asbestos Fibrous Material</u></p> <p>5</p>	<p><u>Type</u></p> <p>Synthetic</p> <p><u>% Non-Fibrous Material</u></p> <p>95</p>

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

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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: V. Smith

Date: 6/20/2011

CERTIFICATE OF ANALYSIS

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

Report Date: 6/20/2011
Report No.: 243657
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

X **Lab No.:** 4335089
Client No.: P-150-HA-40-119
Description / Location: White Insulation
4" Pipe

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Synthetic	98

X **Lab No.:** 4335090
Client No.: P-150-HA-41-120
Description / Location: White Insulation
2" Pipe

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Synthetic	98

X **Lab No.:** 4335091
Client No.: P-150-HA-41-121
Description / Location: White Insulation
2" Pipe

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	3	Synthetic	97

X **Lab No.:** 4335092
Client No.: P-150-HA-41-122
Description / Location: White Insulation
2" Pipe

<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	Synthetic	95

Accreditations: NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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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: V. Smith

Date: 6/20/2011

CERTIFICATE OF ANALYSIS

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

Report Date: 6/20/2011
Report No.: 243657
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

X **Lab No.:** 4335093
Client No.: P-150-HA-42-123
Description / Location: White Insulation
2" Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	3	Synthetic	97

X **Lab No.:** 4335094
Client No.: P-150-HA-42-124
Description / Location: White Insulation
2" Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Synthetic	100
		Trace	Mineral Wool	

X **Lab No.:** 4335095
Client No.: P-150-HA-42-125
Description / Location: White Insulation
2" Fitting

<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	Synthetic	95

X **Lab No.:** 4335096
Client No.: P-112-HA-229-01
Description / Location: Tan Insulation
12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Mineral Wool	25

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method EPA 600/R-93/116

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Report Date: 6/20/2011
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Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335057 **Description / Location:** Lt. Tan Insulation
Client No.: P-91-HA-218-03 TSI 8"

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

Lab No.: 4335058 **Description / Location:** Black Insulation
Client No.: P-88-HA-219-01 12" Line

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Mineral Wool	100

Lab No.: 4335059 **Description / Location:** Tan Insulation
Client No.: P-111-HA-220-01 8" Steam Line

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

Lab No.: 4335060 **Description / Location:** Tan Insulation
Client No.: P-111-HA-221-01 12" Steam Line

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: V. Smith

Date: 6/20/2011

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Report Date: 6/20/2011
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Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335061
Client No.: P-93-HA-222-01
Description / Location: Tan/Black Fibrous/Mastic
18" TSI

<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	Cellulose	35
		25	Mineral Wool	

Lab No.: 4335062
Client No.: P-93-HA-223-01
Description / Location: Tan/Black Fibrous/Mastic
18" TSI - Elbow

<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	Cellulose	15
		55	Mineral Wool	

Lab No.: 4335063
Client No.: P-107-HA-223-02
Description / Location: Lt. Tan Insulation
18" TSI - Elbow

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	90	Mineral Wool	10

Lab No.: 4335064
Client No.: P-104-HA-223-03
Description / Location: White Insulation
18" TSI - Elbow

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	100

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

X **Lab No.:** 4335065
Client No.: P-107-HA-224-01
Description / Location: Tan Insulation
12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	95	Mineral Wool	5

X **Lab No.:** 4335066
Client No.: P-104-HA-224-02
Description / Location: White Insulation
12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	110

X **Lab No.:** 4335067
Client No.: P-107-HA-225-01
Description / Location: Tan Insulation
4" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

X **Lab No.:** 4335068
Client No.: P-119-HA-226-01
Description / Location: White Insulation
12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

Comments:

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Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335069
Client No.: P-124-HA-226-02

Description / Location: Tan Insulation
12" TSI

<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	Cellulose	2
		88	Mineral Wool	

Lab No.: 4335070
Client No.: P-133A-HA-227-01

Description / Location: Grey Insulation
12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

Lab No.: 4335071
Client No.: P-135-HA-227-02

Description / Location: Black Tar/Fibrous
12" TSI

<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	Cellulose	60

Lab No.: 4335072
Client No.: P-135-HA-228-01

Description / Location: Black Tar/Fibrous
8" TSI

<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	Cellulose	70

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

Comments:

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BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335097	Description / Location: Black Wrap			
Client No.: P-191-HA-229-02	12" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Synthetic	90
		10	Fibrous Glass	

Lab No.: 4335097	Description / Location: Tan Insulation			Layer No.: 2
Client No.: P-191-HA-229-02	12" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

Lab No.: 4335098	Description / Location: Brown Insulation			
Client No.: P-112-HA-230-01	8" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Mineral Wool	25

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method EPA 600/R-93/116

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BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335099	Description / Location: Black Wrap			
Client No.: P-191-HA-230-02	8" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Synthetic	95
		5	Fibrous Glass	

Lab No.: 4335099	Description / Location: Silver/Pink Insulation			Layer No.: 2
Client No.: P-191-HA-230-02	8" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	95	Mineral Wool	5

Lab No.: 4335100	Description / Location: White Insulation			
Client No.: P-183-HA-231-01	12" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 4335101	Description / Location: White Insulation			
Client No.: P-183-HA-231-02	12" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method EPA 600/R-93/116

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BULK SAMPLE ANALYSIS SUMMARY

X **Lab No.:** 4335102 **Description / Location:** Tan Insulation
Client No.: P-196-HA-231-03 12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	95	Mineral Wool	5

X **Lab No.:** 4335103 **Description / Location:** Tan Insulation
Client No.: P-199-HA-231-04 12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Mineral Wool	25

X **Lab No.:** 4335104 **Description / Location:** Grey Insulation
Client No.: P-196-HA-232-01 8" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	90	Mineral Wool	10

X **Lab No.:** 4335105 **Description / Location:** Grey Insulation
Client No.: P-199-HA-232-02 8" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	90	Mineral Wool	10

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335106 **Description / Location:** Yellow Insulation
Client No.: P-199A-HA-232-03 8" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

Lab No.: 4335107 **Description / Location:** Black Tar
Client No.: P-5-HA-235-01 8" TSI, Pit 5" Maryland St.

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	Trace	Cellulose	80

Lab No.: 4335108 **Description / Location:** Black Tar
Client No.: P-9-HA-236-01 8" TSI, Pit 9" Maryland St.

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
15	Chrysotile	Trace	Cellulose	85

Lab No.: 4335109 **Description / Location:** Grey Insulation
Client No.: P-241-HA-234-01 12" TSI

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	98	Mineral Wool	2

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method EPA 600/R-93/116

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

Report Date: 6/20/2011
Report No.: 243657
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335073	Description / Location: White Insulation			
Client No.: P-119-HA-233-01	8" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 4335074	Description / Location: Tan Insulation			
Client No.: P-124-HA-233-02	8" TSI			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	60	Cellulose	5
		35	Mineral Wool	

Lab No.: 4335075	Description / Location: Black Wrap			
Client No.: P-158A-HA-34-104	18" Fitting			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	95
		5	Fibrous Glass	

Lab No.: 4335076	Description / Location: Black Wrap			
Client No.: P-158A-HA-34-105	12" Fitting			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	97
		3	Fibrous Glass	

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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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: V. Smith

Date: 6/20/2011

CERTIFICATE OF ANALYSIS

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

Report Date: 6/20/2011
Report No.: 243657
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4335077 **Description / Location:** Black Wrap
Client No.: P-158A-HA-35-106 12" Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	100

Lab No.: 4335078 **Description / Location:** White Wrap
Client No.: P-155-HA-36-107 12" Valve, Fitting

<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	Cellulose	90

Lab No.: 4335079 **Description / Location:** Tan Insulation
Client No.: P-146-HA-36-108 12" Valve, Fitting

<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	Synthetic	95

Lab No.: 4335080 **Description / Location:** Tan/Black Insulation/Tar
Client No.: P-137-HA-36-109 12" Valve, Fitting

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
4.1	Amosite	15	Mineral Wool	PC 65.9
15	Chrysotile			

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188
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Analytical Method EPA 600/R-93/116

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Analysis Performed By: V. Smith

Date: 6/20/2011



**Environmental Design
International inc.**

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Fax: 312-345-0529

Offices also in:
Columbus, Ohio
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CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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		Laboratory Number					
3. Sample by (Signature)		4. # of Samples in Shipment				5. Date of Sample Shipment						6. Date Results Needed			# of Containers	TIME (Minutes)			
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
1	A-116-HA-217-02	Branch next to bldg-116	X						X				X			6/10		1	4335046
2	A-116-HA-212-03	inactivation next to 116																	4335047
3	A-116-HA-213-02	12" PSI																	4335048
4	A-116-HA-213-03	twi-12" stop pipe																	4335049
5	P-88-HA-215-02	Blue print over tank, No. 116																	4335050
6	P-90-HA-216-03	twi-8" stop pipe																	4335051
7	A-11-PC-HA-217-01																		
8	A-11-PC-HA-217-02																		
9	A-11-PC-HA-217-03																		
10	P-90-HA-218-01																		4335055

Signature: [Signature] Date: 6/16/2011
 Signature: [Signature] Date: 6/17/2011
 Signature: [Signature] Date: 6/19/11

Company/Agency Affiliation: RECEIVED
 Condition Noted: JUN 17 2011

Comments:

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1. Sender's Name/Project No.		2. Sampling Site Address/Contact Telephone No.										Indicate Analysis Requested							
J. J. J. / 1602-029		New Station Great Lakes																	
3. Sampled by (Signature)		4. # of Samples in Shipment		5. Date of Sample Shipment										6. Date Results Needed					
[Signature]		74		6/16/11										6/21/11					
Item No.	Sample Number	Sample Location/Description	COMP	GRAB	WATER	SOIL	AIR	SLUDGE	Matrix				Method Preserved				SAMPLING TIME (Minutes)	# of Containers	Laboratory Number
									OTHER	HCl	HNO ₃	H ₂ SO ₄	ICE	NONE	OTHER	Date			
1	P-104-HA-224-02	12" tsi	X						X					X			4335066		
2	P-104-HA-107-01	4" tsi															4335067		
3	P-119-HA-226-01	12" tsi															4335068		
4	P-124-HA-226-02																4335069		
5	P-133A-HA-227-01	tsi 12"															4335070		
6	P-135-HA-227-02																4335071		
7	P-135-HA-228-01	tsi 8"															4335072		
8	P-119-HA-233-01																4335073		
9	P-124-HA-233-02																4335074		
10	P-58A-HA-34-104	Fitting Valve 18"															4335075		

Time In: _____ Time Out: _____
 Total Hours: _____
 Signature: _____
 Print Name: _____

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[Signature]	6/16/11 1100					



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J. Janssen / 1602-029		Naval Station Great Lakes													4335076								
3. Sampled by (Signature)		4. # of Samples in Shipment				5. Date of Sample Shipment				6. Date Results Needed				# of Containers		TIME (Minutes)	VOLUME (L)						
[Signature]		24				6/16/11				6/24/11					1								
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			
1	P-08A-HA-34-105	Fitting wrap 12"	X						X					X		6/13							
2	P-08A-HA-35-106	Fitting wrap 2"																					
3	P-05-HA-36-107	Fitting wrap 12" valves																					
4	P-176-HA-36-108																						
5	P-137-HA-36-109																						
6	P-155-HA-37-110	Fitting insulation 12" valve																					
7	P-146-HA-37-111																						
8	P-146-P-137-HA-37-112																						
9	P-150-HA-39-114	Fittings 4"																					
10	P-150-HA-39-115																						
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]		6/16/11 1000																					

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3. Sampled by (Signature)		5. Date of Sample Shipment				6. Date Results Needed						TIME (Minutes)	# of Containers						
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	Time	VOLUME (L)	
1	P-150-HA-39-116	Fitting 4"	X					X					X			6/13			4335086
2	P-150-HA-40-117	4" pipe																	4335087
3	P-150-HA-40-118																		4335088
4	P-150-HA-40-119																		4335089
5	P-150-HA-41-120	2" pipe																	4335090
6	P-150-HA-41-121																		4335091
7	P-150-HA-41-122																		4335092
8	P-150-HA-42-123	2" Fitting																	4335093
9	P-150-HA-42-124																		4335094
10	P-150-HA-42-125																		4335095
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							
Comments:																			



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3. Sampled by (Signature)		4. # of Samples in Shipment		5. Date of Sample Shipment		6. Date Results Needed		Method Preserved		Sampling		TIME (Minutes)	# of Containers								
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	Time	VOLUME (L)		
1	P-112-HA-229-01	12" tsi		X						X				X			6/14			1	4335096
2	P-191-HA-229-02	8" tsi																			4335097
3	P-112-HA-230-01	12" tsi																			4335098
4	P-191-HA-230-02	8" tsi																			4335099
5	P-183-HA-231-01	12" tsi																			4335100
6	P-183-HA-231-02	8" tsi																			4335101
7	P-196-HA-231-03	12" tsi																			4335102
8	P-199-HA-231-04	8" tsi																			4335103
9	P-196-HA-232-01	12" tsi																			4335104
10	P-199-HA-232-02	8" tsi																			4335105
Time In:		Time Out:		Total Hours:		Signature:		Print Name:		Date/Time Released		Company/Agency Affiliation		Condition Noted							
Released by (Signature)		Date/Time Released		Delivery Method		Released by (Signature)		Date/Time Released		Company/Agency Affiliation		Condition Noted									
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J. J. J. / 1602-029		Naval Station Great Lakes																			
3. Sampled by (Signature)		4. # of Samples in Shipment		5. Date of Sample Shipment										6. Date Results Needed							
[Signature]		74		6/16/11										6/21/11							
Item No.	Sample Number	Sample Location/Description	COMP	GRAB	WATER	SOIL	AIR	Matrix				Method Preserved				Date	Sampling Time	VOLUME (L)	TIME (Minutes)	# of Containers	Laboratory Number
								SLUDGE	OTHER	HCl	HNO ₃	H ₂ SO ₄	ICE	NONE	OTHER						
1	P-191A-HA-232-03	8" tsi	X						X												4335106
2	P-5-HA-235-01	8" tsi, Pit 5" Angled St.																			4335107
3	P-9-HA-236-01	8" tsi, Pit 9" Angled St.																			4335108
4	P-241-HA-234-01	12" tsi																			4335109
5	A-B26-HA-38-114	18" tsi fittings, bridge																			4335110
6	A-B2016-HA-38-115	18" fittings, wrap																			4335111
7	A-B2801-HA-39-116	18" fitting																			4335112
8	A-B26-HA-39-117	tsi 18"																			4335113
9	A-B2801-HA-39-118	18" pipe																			4335114
10	A-B2801-HA-39-119																				4335115

Time In: _____ Time Out: _____ Total Hours: _____

Signature: _____ Released by (Signature): _____ Date/Time Released: _____

Print Name: _____ Company/Agency Affiliation: _____ Condition Noted: _____

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Comments:



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1. Sender's Name/Project No.		2. Sampling Site Address/Contact Telephone No.										Indicate Analysis Requested							
Valkenstein / 1602-039		Naval Station Great Lakes																	
3. Shipped by (Signature)		4. # of Samples in Shipment		5. Date of Sample Shipment										6. Date Results Needed					
<i>[Signature]</i>		74		6/14/11										6/15					
Item No.	Sample Number	Sample Location/Description	Matrix										VOLUME (L)	TIME (Minutes)	# of Containers	Laboratory Number			
			WATER	SOIL	AIR	SLUDGE	OTHER	HCl	HNO ₃	H ₂ SO ₄	ICE	NONE					OTHER	Date	Sampling Time
1	A-D2016 - HA-40-120	fittings patch	X															4335116	
2	A-B2016 - HA-41-121	fittings flap																4335117	
3	A-B2016 - HA-41-122																	4335118	
4	A-B2016 - HA-41-123																	4335119	
5																			
6																			
7																			
8																			
9																			
10																			
Time In:		Time Out:		Total Hours:										Signature:		Print Name:			
<i>[Signature]</i>		6/14/11 11:00												<i>[Signature]</i>		Company/Agency Affiliation			
Released by (Signature)		Date/Time Released		Delivery Method										Released by (Signature)		Date/Time Released		Condition Noted	
Comments:				To Archive/Disposal															

CERTIFICATE OF ANALYSIS

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

Report Date: 9/19/2011
Report No.: 252211
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427482 **Description / Location:** Yellow Insulation
Client No.: PI83-HA-300-01 10" Pit 183

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	3	Cellulose	97

Lab No.: 4427483 **Description / Location:** Yellow Insulation
Client No.: PI83-HA-300-02 10" Pit 183

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	3	Cellulose	97

Lab No.: 4427484 **Description / Location:** Yellow Insulation
Client No.: PI83-HA-300-03 10" Pit 183

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	3	Cellulose	97

Lab No.: 4427485 **Description / Location:** Grey Insulation
Client No.: PI83-HA-301-04 10" Pit 183

<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

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Approved By:

Date: 9/19/2011

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

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

Report Date: 9/19/2011
Report No.: 252211
Project: Naval Station Great Lakes
Project No.: 1602.029

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4427486 **Description / Location:** White Insulation
Client No.: PI83-HA-301-05 10" Pit 183

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 4427487 **Description / Location:** White Insulation
Client No.: PI83-HA-301-06 10" Pit 183

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 4427488 **Description / Location:** Off-White Insulation
Client No.: HA223-04 TSI Pit 107 18" Line N-S

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	3	Cellulose	95
		2	Hair	

Lab No.: 4427489 **Description / Location:** Off-White Insulation
Client No.: HA224-03 TSI Pit 107 12" Line N-S

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	3	Cellulose	95
		2	Hair	

Accreditations: NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA-LAP, LLC No. 100188

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Analytical Method EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 9/19/2011



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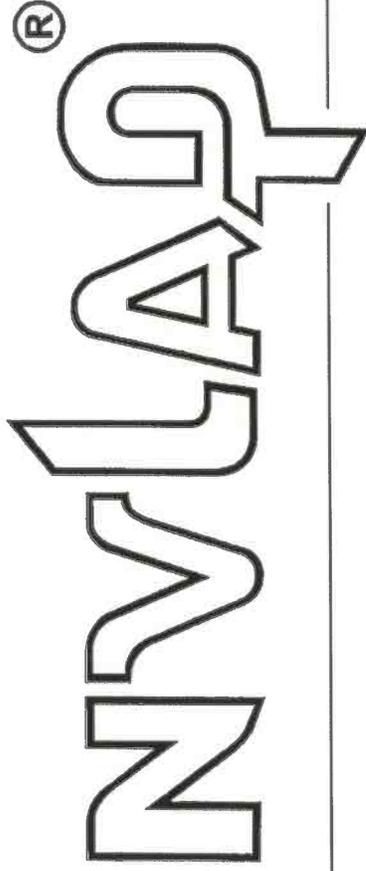
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Custody and Sample Information - Complete ALL information. Put N/A in blanks not applicable. Press firmly.

1. Sender's Name/Project No. <i>Jason Jansen 1602-029</i>		2. Sampling Site Address/Contact Telephone No. <i>Amul Station Great Lakes</i>		Indicate Analysis Requested		Laboratory Number														
3. Sampled by (Signature) <i>[Signature]</i>		4. # of Samples in Shipment <i>8</i>		5. Date of Sample Shipment <i>9/12/11</i>		6. Date Results Needed <i>9/19/11</i>														
Item No	Sample Number	Sample Location/Description	Method Preserved										VOLUME (L)	TIME (Minutes)	# of Containers	Laboratory Number				
			COMP	GRAB	WATER	SOIL	AIR	SLUDGE	OTHER	HCl	HNO3	H2SO4					ICE	NONE	OTHER	Date
1	P183-HA-300-01	Tan TSI 10" Pit 183	X															X	4427482	
2	-02																		4427483	
3	-03																		4427484	
4	P183-HA-301-04	White TSI 10" Pit 183																	4427485	
5	-05																		4427486	
6	-06																		4427487	
7	HA 223-04	18" TSI white 8" line N-S																	4427488	
8	HA224-03	12" TSI white pit 107 12" line N-S																	4427489	
9																				
10																				
Time In:			Time Out:			Total Hours:			Signature: <i>[Signature]</i>									Print Name:		
Released by (Signature)		Date/Time Released		Delivery Method		Released by (Signature)		Date/Time Released		Company/Agency		Portion Noted								
<i>[Signature]</i>		9/12/11 12:00		US 9/19/11		<i>[Signature]</i>		9/12/11 12:00		R		R								
Comments: <i>ATL-RJ</i>																				

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

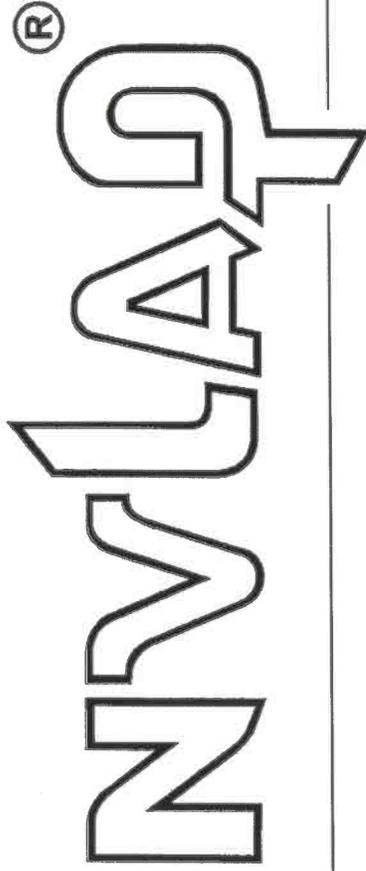
18/A02 U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

2010-07-01 through 2011-06-30

Effective dates

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Sally A. Bruce

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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

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International Asbestos Testing Labs
9000 Commerce Parkway
Suite B
Mt. Laurel, NJ 08054

NVLAP Lab Code: 101165-0

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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:

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**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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9000 Commerce Parkway

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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

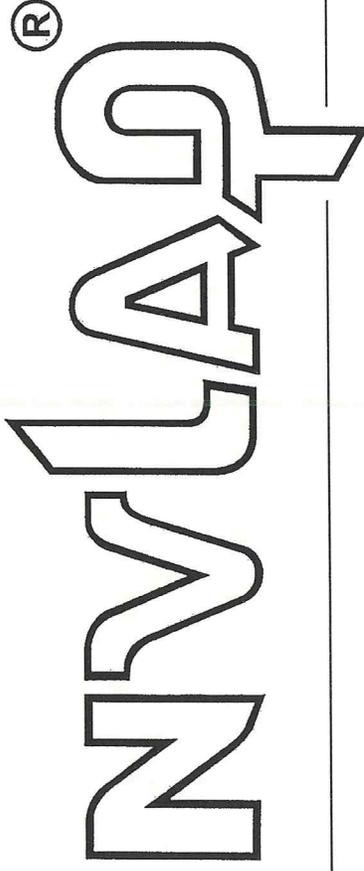
18/A01 EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2011-07-01 through 2012-06-30

Effective dates

For the National Institute of Standards and Technology

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BULK ASBESTOS FIBER ANALYSIS

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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:

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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

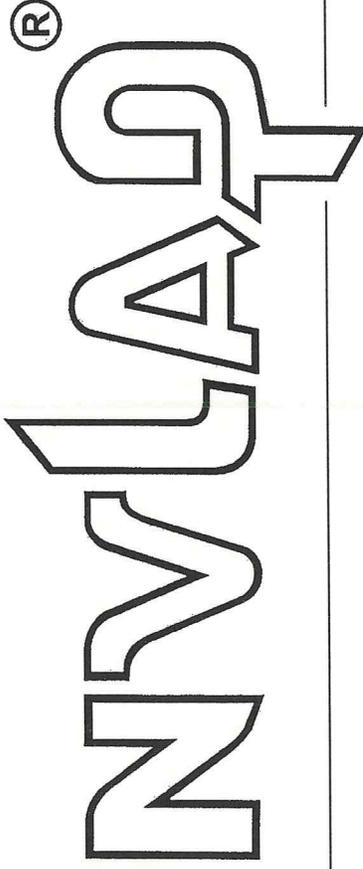
18/A02 U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

2011-07-01 through 2012-06-30

Effective dates

For the National Institute of Standards and Technology

United States Department of Commerce
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2011-07-01 through 2012-06-30

Effective dates



Dolly S. Bruce

For the National Institute of Standards and Technology

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: 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)

AUG 21 2010 **AUG 21 2012**
Issue Date Recommended Renewal Date



Learn and Live

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

Holder's Signature *Jose Aguilera*

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

ENDORSEMENTS

TC EXPRES

INSPECTOR

1/19/2012

PROJECT MANAGER

7/30/2011

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.



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**

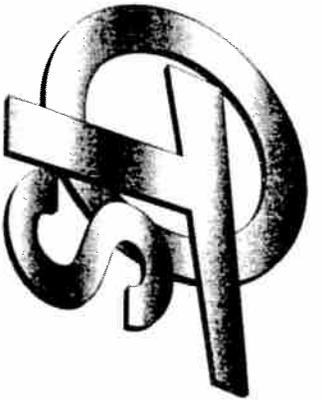
LEAD ID ISSUED
007573 1/6/2011

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.

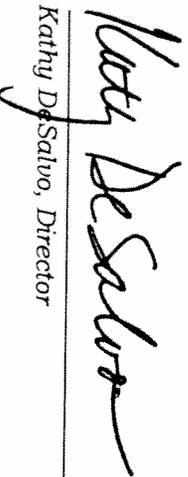
Asbestos Building Inspector Refresher

Course Date: 1/7/2011

Expiration Date: 1/7/2012

Exam Date: 1/7/2011

Certificate: BIR1101070045


Kathy DeSalvo, Director

2011



**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.