
Asbestos-Containing Material and Lead Based Paint Pre-Renovation Survey for Building 1 Naval Reserve Center Duluth, Minnesota

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Prepared for:

Department of the Navy
Southern Division
NAVFACENCOM
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1.0 EXECUTIVE SUMMARY

BAT Associates, Inc. (BAT) was retained by the U.S. Department of the Navy, Southern Division (SouthDiv), Naval Facilities Engineering Command (NAVFACENGCOM) to perform an asbestos-containing material (ACM) and lead-based paint (LBP) pre-renovation survey of Building 1 located at the Naval Reserve Center in Duluth, Minnesota.

1.1 Asbestos-Containing Material Summary

Physical inspection and confirmatory laboratory analysis of bulk samples resulted in the identification of the following five materials with asbestos concentrations greater than one percent of Building 1. The built-up roofing material and the roof flashing were assumed to contain asbestos due to the inaccessibility of the roof.

Table 1.0 Summary of Identified ACM

Material Description	Approximate Quantity	NESHAP Category
Floor Tile, 9" x 9" gray	2,000 SF	Category I, non-friable
Floor Tile, 9" x 9" light brown	3,500 SF	Category I, non-friable
Floor tile, 9" x 9" green	1,800 SF	Category I, non-friable
Pipe Insulation, steam	80 LF	Regulated, friable
Pipe Fitting Insulation, on domestic hot and cold water	70 LF	Regulated, friable
Built-up Roof	5,500 SF	Category I, non-friable
Roof Flashing	400 SF	Category I, non-friable

- NOTES:** SF= Square Feet LF = Linear Feet
 NESHAP = National Emission Standards for Hazardous Air Pollutants
- One percent or less asbestos content is considered a non-asbestos-containing material by EPA and the State of Minnesota.
 - The National Emission Standards for Hazardous Air Pollutants (NESHAP) require a minimum of three non-asbestos-containing analysis results per homogeneous area (material) to classify that material as being a non-asbestos-containing material. However, one "positive" asbestos-containing analysis result would classify that material as being an asbestos-containing material.
 - No Quality Control discrepancies were noted.

1.2 Lead-Based Paint Summary

The Environmental Protection Agency (EPA) and the Housing and Urban Development (HUD) define the term *lead-based paint* (LBP) as paint or other surface coatings that contain a lead concentration greater than or equal to 1.0 mg/cm².

A list of LBP identified in Building 1 is summarized in Table 2.0.

Table 2.0 Summary of Identified LBP

LBP Description	Material Location	Approximate Quantity
White paint	Window sash, rooms 101, 114, 118, 124, 127, 216, and second floor corridor	7 windows
Blue paint	First floor bath, walls B, C and D	300 SF
Yellow paint	First floor bath 2, wall D	4 SF

Notes: SF = Square Feet

2.0 BUILDING INSPECTION INFORMATION

Building Name: NRC, Duluth
Building Number: 1
Facility: Naval Reserve Center, Duluth, MN
Building Square Footage: 11,000
Year Built: 1956
Building Type: Operations
No. of Floors in Building: 2
Purpose of ACM Survey: Pre-renovation
Facility Unit Identification Code (UIC): N/A

Building Contact: Petty Officer Manherz
Contact's Telephone No.: (218) 722-3454
Building Survey Date(s): June 26, 2001

Asbestos/Lead Inspector's Name: Mr. Michael E. Emerson
Asbestos/Lead Inspector's Accreditation No: 2178
Inspection Company: BAT Associates, Inc.
Company Telephone No. (770) 242-3908

3.0 INTRODUCTION

BAT Associates, Inc. (BAT) was retained by the U.S. Department of the Navy, Southern Division (SouthDiv), Naval Facilities Engineering Command (NAVFACENGCOM) to perform an asbestos-containing material (ACM) and lead based paint (LBP) pre-renovation survey of Building 1 located at the Naval Reserve Center in Duluth, Minnesota. This report discusses this survey and its results. The report presents the ACM and LBP surveys separately in Section 4.0 and Section 5.0, respectively. Each section describes the sampling methodology, identified suspect materials, and analytical results. Section 6.0 discusses the conclusions and recommendations of the overall survey. Appendix A contains drawings identifying the locations of collected samples and identified ACM. Appendix B contains photographic documentation of identified ACM. Appendix C contains asbestos laboratory analysis results. Appendix D contains a list of all the identified LBP. Appendix E contains personnel and laboratory accreditations.

4.0 ASBESTOS

The ACM inspection was performed in accordance with the Navy's Asbestos Facility Inventory/Assessment Protocol (NEESA 70.2-010) and the U.S. Environmental Protection Agency's (USEPA) requirements for implementation of the Asbestos Hazard Emergency Response Act (AHERA), and the Asbestos School Hazard Abatement Reauthorization Act (ASHARA).

The inspection survey was carried out by Mr. Michael E. Emerson from June 26, 2001 under the direction of Mr. Douglas J. Milton, CIH. Mr. Emerson is an accredited asbestos and lead building inspector. Mr. Milton is an accredited asbestos and lead building inspector and a Certified Industrial Hygienist.

The assessment protocol for ACM involved three distinct steps. The inspectors:

1. Performed preliminary walk-through of the building to identify suspect ACM and to determine the amount of suspect ACM, to define the number of samples to be collected, to identify any access problems (e.g., collection of samples in a limited access pipe chase below the building), and to determine the degree of personal protection necessary for the bulk sample collection.
2. Visually inspected the building for ACM to identify the location of the suspect ACM and to determine if the material was friable or non-friable. Suspect materials were then categorized in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements for asbestos as: Category I Non-friable Materials, Category II Non-friable Materials, and Regulated (friable) Asbestos-Containing Materials (RACM).
3. Collected bulk samples for the analysis for asbestos content (see Section 4.1, *Sampling Methodology*, for details).

4.1 ACM Sampling Methodology

Representative, randomly selected bulk samples were collected in accordance with the Navy's P-141 guideline and AHERA sampling protocol, as described in 40 CFR 763.86, and in accordance with BAT's contractual requirements. Bulk samples were collected from homogenous areas (materials) in a manner that minimized the risk for release of airborne asbestos fibers. A homogeneous area (material) is defined as a material uniform in size, color and texture.

The minimum number of samples collected from each homogeneous area was as follows:

1. *Friable Spray-Applied or Trowel-Applied Material* (including plaster)
 - a. Less than or equal to 1,000 Square Feet (SF) = 3 samples
 - b. Greater than 1,000 SF and less than or equal to 5,000 SF = 5 samples
 - c. Greater than 5,000 = 7 samples

2. *Pipe and Duct Insulation*

- a. Three samples per homogeneous area of insulation.

3. *Elbows, Valves, Fittings, and Connection Mud*

Three representative samples from each type of insulated elbow, valve, fitting, and connection mud.

4. *Boiler, Tanks, and Furnaces*

A minimum of 3 samples per unit.

5. *Patchwork*

Patchwork is defined as a patch or repair to existing material based on the following quantities:

- a. Surfacing material patches are limited to a maximum of 6 SF
- b. Pipe and duct insulation patches are limited to a maximum of 6 Linear Feet (LF) or 6 SF
- c. Boiler, tank, and furnace patches are limited to 6 SF

If the patchwork exceeded the limits prescribed above, it was sampled according to the homogeneous area protocol in items 1 to 4 above. If a material qualifies as patchwork, a single sample was collected per patch.

6. *Ceiling or Acoustical Tile*

Three samples minimum.

7. *Miscellaneous Friable Material*

Three samples minimum.

8. *Non-friable Material*

Non-friable materials for the purpose of this survey included Transite-type panels, floor tiles, floor tile mastic, and other miscellaneous materials.

Minimum of three samples.

The procedures followed for collection of each bulk sample are outlined briefly below:

1. The accredited inspector collecting the sample was equipped with the appropriate personal protective equipment. This included a half-mask air-purifying respirator, protective gloves and protective eye-wear.
2. The surface of the material to be sampled was wetted with amended water (containing a surfactant to aid penetration) mist to lessen the risk of fiber release during sampling.
3. Each sample was extracted using the appropriate equipment, (e.g., a sample container, knife, or core borer). Care was taken to insure that all layers of the suspect materials, down to the substrate, were included in the sample.
4. Each sample was placed in an individual container that was then sealed and labeled with a unique identification number, which was also recorded on a sample data log-in sheet.
5. After each sample was collected, the area immediately surrounding the sampling location was inspected for debris and wet-cleaned as necessary to lessen the risk of an airborne fiber release.
6. All necessary data were recorded on the BAT Suspect Material Inventory Form including: sample number, sample location, type of suspect material, name of inspector collecting the sample, and other relevant information.
7. Samples were transported to Occupational Health Conservation, Inc. (OHC) Asbestos Laboratories in Jacksonville, Florida, for Polarized Light Microscopy (PLM) analysis. OHC participates in the National Voluntary Laboratory Assurance Program (NVLAP) for the analysis of asbestos content in suspect materials. OHC's NVLAP Laboratory Code is 102050.

8. BAT collected duplicate samples during the collection of primary bulk samples for quality control (QC) purposes. QC samples were collected at ten percent of the bulk sample locations. They were assigned unrelated sample identification numbers and analyzed using the same criteria as the primary samples.
9. Upon receipt by the laboratory, the samples were logged in and assigned a unique laboratory identification number. The laboratory analyzed the samples in accordance with 40 CFR 763.87, Subpart F.

4.2 Asbestos Inventory and Assessment

A total of eighteen homogeneous areas (materials) were identified during the survey. Table 3.0 describes the suspect ACM identified in and around Building 1. Those materials with an asbestos content of less than one percent (as determined by sampling and analysis) are not assigned to an AHERA category since they are considered non-asbestos containing. These materials are listed as N/A in this table.

Table 3.0 List of Identified Suspect ACM

HA No.	Description of Suspect ACM	Location of Suspect ACM	AHERA Category of Material
01	Ceiling Tile, 2' x 4' suspended	Rooms 201, 210, 214, 215, 216, and 217	N/A
02	Ceiling Tile, 2' x 4' suspended	Rooms 104, 105, 106, 114, 116, 118, 119, 120, 124, 129, main lobby and second floor corridor	N/A
03	Ceiling Tile, 1' x 1' suspended	All second floor except rooms 203, 204, 205, 207, 209, 212, 213, 215, and storage room	N/A
04	Ceiling Tile, 2' x 4' suspended	Rooms 127 and 128 and first floor corridor	N/A
05	Ceiling Tile, 2' x 4' suspended	Room 113	N/A
06	Floor Tile, 12" x 12" brown	Room 210	N/A
07	Floor Tile, 12" x 12" brown pattern	Rooms 113, 125, 201, 202, 213, 214, 215, 216, and 217, and first floor corridor	N/A
08	Floor Tile, 9" x 9" gray	Rooms 211, 212, 115, 116, 129, storage closet, SE stairwell, and second floor corridor	M
09	Floor Tile, 9" x 9" light brown	Rooms 101, 114, 118, 119, 120, 124, 208, and 209.	M
10	Floor Tile, 9" x 9" green	Under HA #07 in rooms 213, 214, 215, 216, and 217	M
11	Vinyl Sheet Flooring, white	Over HA #09 in rooms 102, 103, and 105	N/A
12	Drywall, on walls	Interior walls over plaster except around restrooms and perimeter walls	N/A

HA No.	Description of Suspect ACM	Location of Suspect ACM	AHERA Category of Material
13	Plaster Finish, on concrete	Walls in stairwell, restrooms along baths, closet, corridor walls and perimeter walls	N/A
15	Joint Sealer Compound and Tape, on drywall	Interior walls over plaster except around restrooms and perimeter walls	N/A
16	Pipe Insulation, steam	In crawl space area, behind central stairwell (visible but inaccessible)	TSI
17	Pipe Insulation, on domestic hot and cold water	Crawl space behind central stairwell (visible from room 112)	N/A
18	Pipe Fitting Insulation, on domestic hot and cold water	Crawl space behind central stairwell (visible from room 112), 9 inaccessible fittings	TSI
19	Boiler Exhaust Insulation, 12"	Mechanical room	N/A
20	Built-up Roofing	Roof	M
21	Roof Flashing	Roof	M

Notes: N/A = Not Applicable M = Miscellaneous Material TSI = Thermal System Insulation

4.3 Summary of Asbestos Sample Analysis Results

A total of seven suspect homogeneous areas (materials) were found to contain asbestos. Table 4.0 contains a summary of the bulk sample analysis results for suspect ACM identified in this building.

According to AHERA protocol, all samples within a homogeneous area must have an asbestos content of one percent or less by weight, using PLM analysis, before the material can be categorized as non-asbestos-containing. If one sample is determined as asbestos-containing the entire homogeneous area must be classified asbestos-containing.

Table 4.0 Summary of ACM Sample Analysis Results

HA No.	Sample ID Nos.	Suspect Material Description	Asbestos Content	Friability
01	MN01A, MN01B, MN01C	Ceiling Tile, 2' x 4' suspended	NAD	N/A
02	MN02A, MN02B, MN02C	Ceiling Tile, 2' x 4' suspended	NAD	N/A
03	MN03A, MN03B, MN03C, MN03D, MN03E	Ceiling Tile, 1' x 1' suspended	NAD	N/A
04	MN04A, MN04B, MN04C	Ceiling Tile, 2' x 4' suspended	NAD	N/A

HA No.	Sample ID Nos.	Suspect Material Description	Asbestos Content	Friability
05	MN05A, MN05B, MN05C	Ceiling Tile, 2' x 4' suspended	NAD	N/A
06	MN06A, MN06B, MN06C	Floor Tile, 12" x 12" brown	NAD	N/A
07	MN07A, MN07B, MN07C	Floor Tile, 12" x 12" brown pattern	NAD	N/A
08	MN08A, MN08B, MN08C	Floor Tile, 9" x 9" gray	8% chrysotile	Non
09	MN09A, MN09B, MN09C	Floor Tile, 9" x 9" light brown	Tile = 5% chrysotile, Mastic = NAD	Non
10	MN10A, MN10B, MN10C	Floor Tile, 9" x 9" green	Tile = 5% chrysotile, Mastic = NAD	Non
11	MN11A, MN11B, MN11C	Vinyl Sheet Flooring, white	NAD	N/A
12	MN12A, MN12B, MN12C, MN12D, MN12E	Drywall, on walls	NAD	N/A
13	MN13A, MN13B, MN13C	Plaster Finish, on concrete	NAD	N/A
15	MN15A, MN15B, MN15C	Joint Sealer Compound and Tape, on drywall	NAD	N/A
16	MN16A, MN16B, MN16C	Pipe Insulation, steam	10% chrysotile and 30% Amosite	Friable
17	MN17A, MN17B, MN17C	Pipe Insulation, on domestic hot and cold water	NAD	N/A
18	MN18A, MN18B, MN18C	Pipe Fitting Insulation, on domestic hot and cold water	30% chrysotile	Friable
19	MN19A, MN19B, MN19C	Boiler Exhaust Insulation, 12"	NAD	N/A
20	No samples collected	Built-up Roofing	Assumed to contain asbestos	Non
21	No samples collected	Roof Flashing	Assumed to contain asbestos	Non

4.4 Asbestos Quality Control

The purpose of quality control sampling was to ensure reproducibility of the primary laboratory analysis results. Duplicate samples were collected for ten percent of the total building samples for this purpose. The comparison sample results can be found in Table 5.0.

Table 5.0 Validation of Asbestos QC Sample Results

Sample I.D. No.	Primary Laboratory Analysis Results	QC Laboratory Analysis Results
MN08B-Q	8% chrysotile	Tile = 4% chrysotile, Mastic = 2% chrysotile
MN09A-Q	Tile = 5% chrysotile, Mastic = NAD	Tile = 6% chrysotile, Mastic = 2% chrysotile
MN12C-Q	NAD	NAD
MN18A-Q	Tar Paper = 30% chrysotile, Brown matting = NAD	Tar Paper = Not Analyzed, Brown matting = NAD
MN19C-Q	NAD	NAD

No analysis discrepancies were noted from quality control sampling.

5.0 LEAD-BASED PAINT

The lead-based paint inspection was performed in accordance with the Navy, EPA/Housing and Urban Development (HUD) guidelines, and applicable state regulations.

The survey was performed by Mr. Michael E. Emerson under the direction of Mr. Douglas J. Milton, CIH. Mr. Emerson is an accredited lead inspector and Mr. Milton is an accredited lead inspector and risk assessor.

Mr. Emerson performed the field investigation and testing on June 28, 2001 in accordance with the Navy and EPA/HUD guidelines (40 CFR Part 745: Lead; Requirements for & Child-Occupied Facilities).

For the purposes of this survey, the term *lead-based paint* is defined by HUD as a paint or other surface coating containing a lead concentration greater than or equal to 1.0 mg/cm².

5.1 Lead Testing Methodology

The lead testing criteria established for this project required testing of all painted building surfaces and suspect components with an X-Ray Fluorescence (XRF) lead detection instrument.

BAT used the NITON model XL 309 XRF for this project. All warm-up time and calibrations tests were performed in accordance with the manufacture's specifications. This calibration consisted of one set of five initial tests at the beginning of the testing day, recalibration after every four hours of use, and/or at the end of the testing day. The calibration testing was performed using five National Institute of Standards and Technology (NIST) standard samples containing known concentrations of lead ranging from 0.0 mg/cm² through 5.0 mg/cm². No discrepancies in calibration were noted.

BAT developed an XRF sampling scheme that would provide thorough testing of all painted surfaces and suspect building components. Since the majority of building components (i.e., walls, doors, door frames, window frames, baseboards, floors, tile, etc.) were homogeneously painted, the sampling scheme consisted of testing each suspect painted surface and building component once per room or room equivalent. This would ensure that the minimum number tests of each component were achieved.

All building components for which the XRF test results showed concentrations between 0.5 mg/cm² and 1.5 mg/cm² were retested with the instrument a minimum of three times. The results of the three readings were then averaged to obtain the value reported as the survey result.

5.2 XRF Testing Results

For the purpose of this survey, BAT defined the XRF test results as positive or negative. A *positive classification* indicated the building component contained a lead concentration greater

than or equal to 1.0 mg/cm². A *negative classification* indicated that the building component contained a lead concentration less than 1.0 mg/cm². **NOTE: A negative classification does not mean the building component is lead-free.**

Over 95 types of materials were identified as suspect lead-based paint during the field investigation. The materials were characterized based of their component substrates (e.g. wood, plaster, metal, etc.) and/or application to structural components (e.g. walls, doors). Appendix D lists all of the materials tested for lead in Building 1 and presents the XRF analyses results for each.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Asbestos-Containing Materials

Physical inspection of Building 1 and confirmatory laboratory analysis of the bulk samples resulted in the identification of the following five materials with asbestos concentrations greater than one percent. The built-up roofing material and the roof flashing were assumed to contain asbestos due to the inaccessibility of the roof.

Material Description	Approximate Quantity	NESHAP Category
Floor Tile, 9" x 9" gray	2,000 SF	Category I, non-friable
Floor Tile, 9" x 9" light brown	3,500 SF	Category I, non-friable
Floor tile, 9" x 9" green	1,800 SF	Category I, non-friable
Pipe Insulation, steam	80 LF	Regulated, friable
Pipe Fitting Insulation, on domestic hot and cold water	70 LF	Regulated, friable
Built-up Roof	5,500 SF	Category I, non-friable
Roof Flashing	400 SF	Category I, non-friable

NOTES: SF = Square Feet LF = Linear Feet

EPA rules governing the application, removal, and disposal of ACM were promulgated under NESHAP (40 CFR 61, Part M). NESHAP requires the building owner or asbestos removal contractor to notify EPA when a building containing ACM is to be renovated, ACM is to be removed, or the building is to be demolished. At least 20 days advance notification is required "...if less than 260 linear feet of asbestos pipe covering or 160 square feet of asbestos material are removed during building renovation". Ten days advance notification is required when the amount is greater than 260 linear feet or 160 square feet of friable ACM.

6.2 Lead-Based Paints

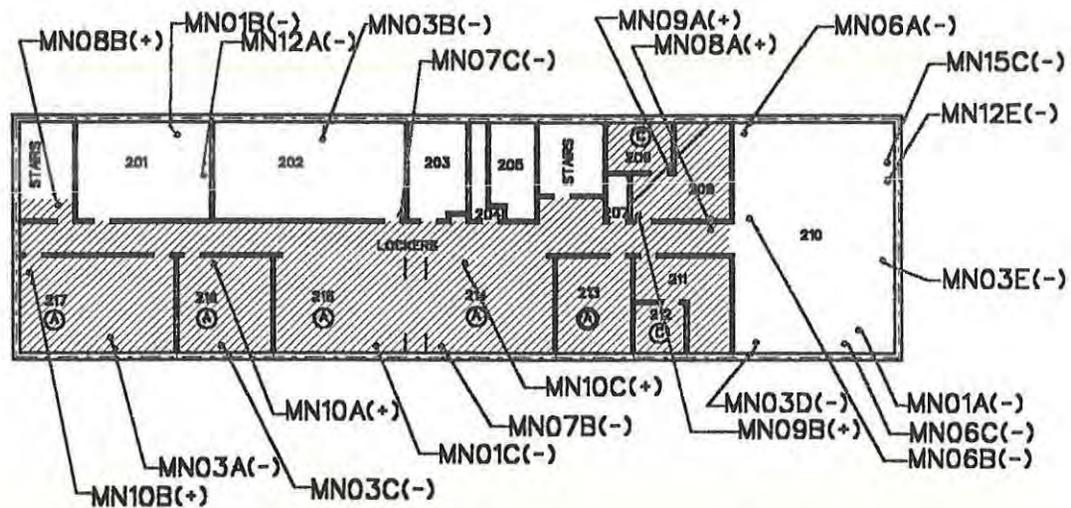
Physical inspection of Building 1 and confirmatory XRF testing resulted in the identification of the following painted surfaces with lead concentrations equal to or greater than the EPA/HUD regulated lead-based paint standard of 1.0 mg/cm².

LBP Description	Material Location	Approximate Quantity
White paint	Window sash, rooms 101, 114, 118, 124, 127, 216, and second floor corridor	7 windows
Blue paint	First floor bath, walls B, C and D	300 SF
Yellow paint	First floor bath 2, wall D	4 SF

Notes: SF = Square Feet

In the State of Minnesota, lead removal activities must be performed by companies licensed through the state.

APPENDIX A



LEGEND

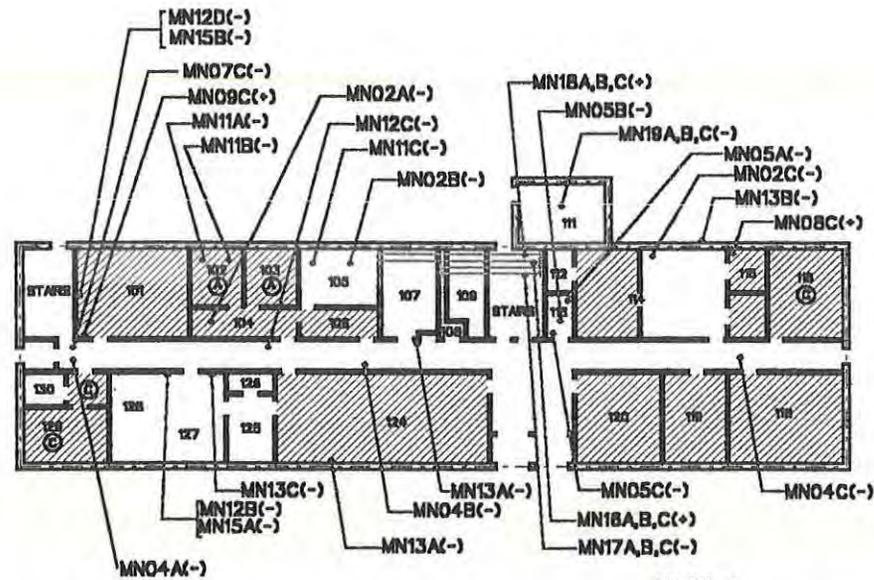
- (-) - Non-Asbestos-Containing Sample
- (+) - Asbestos-Containing Sample
- /// - Asbestos-Containing Floor Tile And Mastic
- ⓐ - Under Carpet

**NAVAL RESERVE CENTER, DULUTH, MN
BUILDING 1, SECOND FLOOR
Asbestos-Containing Material And
Sample Locations**



NOTE A:
No Asbestos-Containing Floor Tile Is Under Non-Asbestos-Containing Flooring.

NOTE B:
Roofing Materials Were Assumed To Contain Asbestos Due To Inaccessibility.



NOTE A:
Asbestos-Containing Floor Tile is Under
Non-Asbestos-Containing Flooring.

NAVAL RESERVE CENTER DULUTH, MN
BUILDING 1, FIRST FLOOR

Asbestos-Containing Material And
Sample Locations

LEGEND

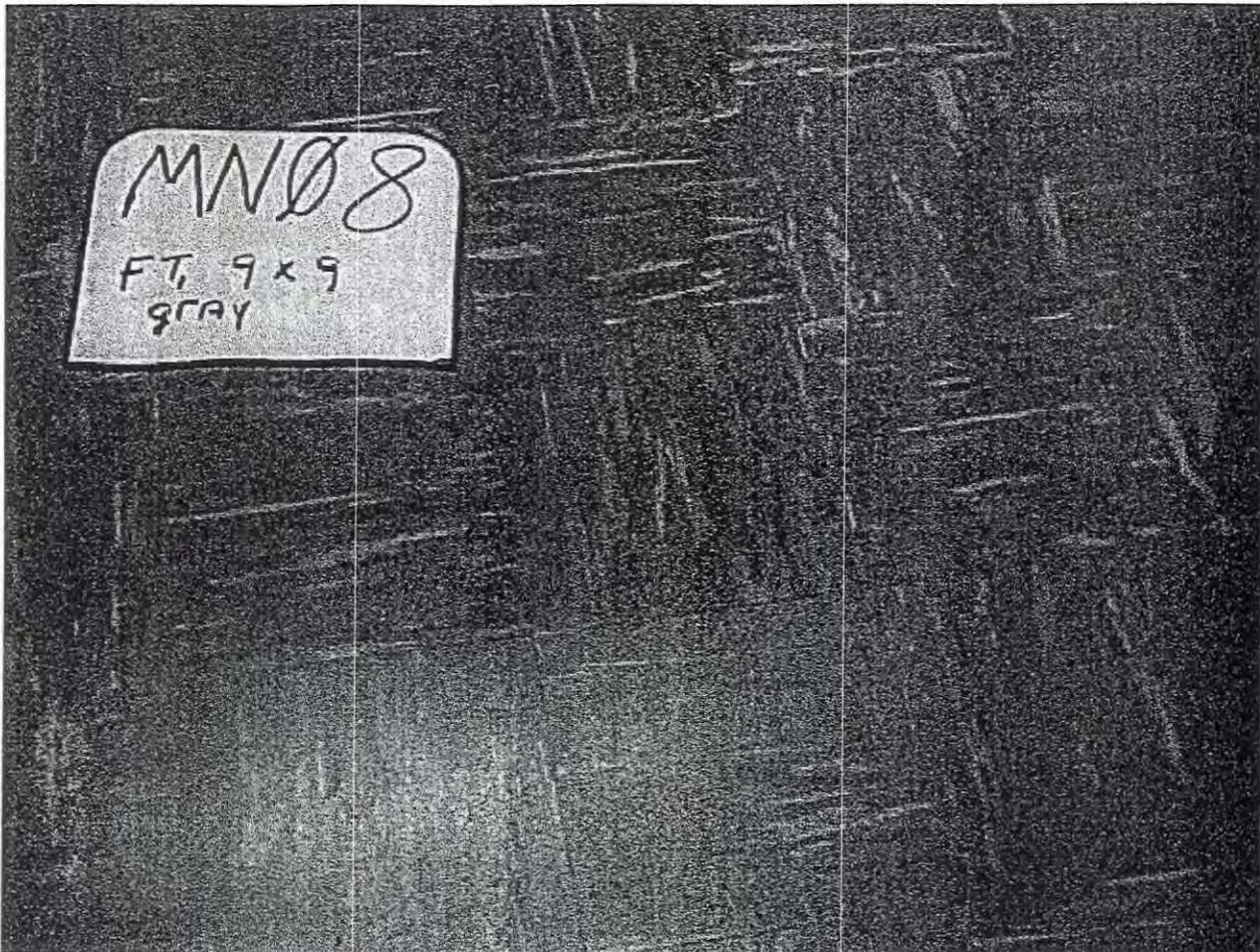
- (-) - Non-Asbestos-Containing Sample
- (+) - Asbestos-Containing Sample
- /// - Asbestos-Containing Floor Tile And Mastic
- |-|- - Asbestos-Containing Pipe And/Or Pipe Fitting Insulation
- ⊙ - Under Carpet



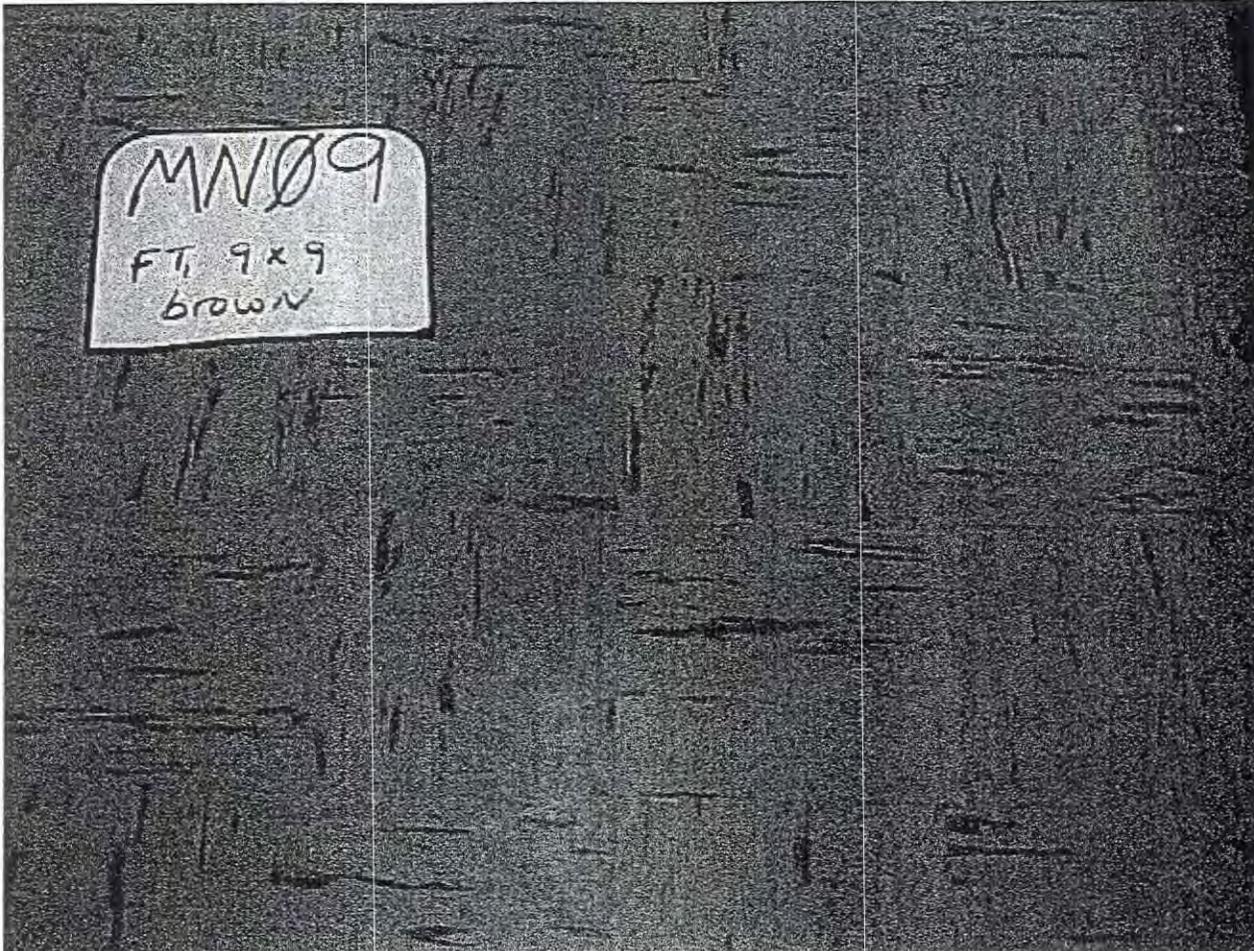
N.T.S.

RAT Associates, Inc.
ENVIRONMENTAL, HEALTH & SAFETY SERVICES
201 BRIDGE AVENUE, SUITE 200
MARIETTA, GA 30067

APPENDIX B



Floor Tile, 9" x 9" gray, HA # 08



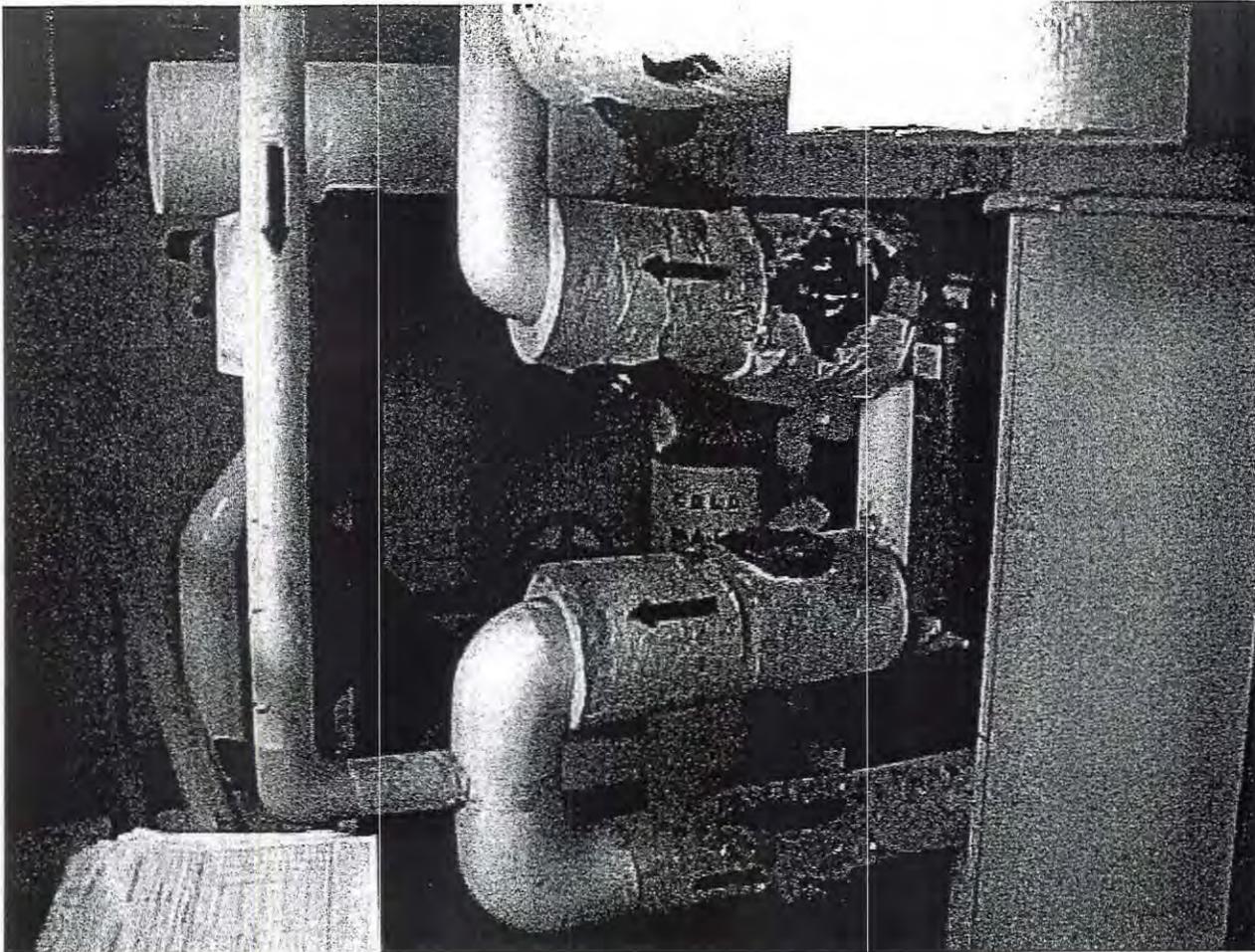
Floor Tile, 9" x 9" light brown, HA# 09



Floor Tile, 9" x 9" green, HA# 10



Pipe Insulation, steam, HA #16



Pipe Fitting Insulation, on domestic hot and cold water, HA# 18

APPENDIX C

PLM BULK ASBESTOS TEST REPORT

OCCUPATIONAL HEALTH CONSERVATION, INC.
 1840 SOUTHSIDE BOULEVARD, SUITE 3C
 JACKSONVILLE, FLORIDA 32216
 NVLAP Lab Code 102050

Project: Naval Reserve Center
 5019 Airport road
 Duluth, MN

OHC Project No: 010904AI
OHC Lab Batch No: 9290
Date Analyzed: 7/5/2001

Lab Sample Number	Client Sample Number	Sample Identification	Layer/ Description	Asbestos Percentage CHRY-AMOS-Other	Non-Asbestos Fibers Percentage		Non-Fibrous Materials Percentage
					CELL-FBGL-MWL-SYNTH-WOLL-OTR		
BA01-3528	MN01A	Ceiling tile - 2 x 4	Tan fibrous material	NAD	40	40	20 Binders, perlite, paint
BA01-3529	MN01B	Ceiling tile - 2 x 4	Tan fibrous material	NAD	40	40	20 Binders, perlite, paint
BA01-3530	MN01C	Ceiling tile - 2 x 4	Tan fibrous material	NAD	40	40	20 Binders, perlite, paint
BA01-3531	MN02A	Ceiling tile - 2 x 4	Gray fibrous material	NAD	80		20 Binders, perlite, paint
BA01-3532	MN02B	Ceiling tile - 2 x 4	Gray fibrous material	NAD	80		20 Binders, perlite, paint
BA01-3533	MN02C	Ceiling tile - 2 x 4	Gray fibrous material	NAD	80		20 Binders, perlite, paint
BA01-3534	MN03A	Ceiling tile - 1 x 1	Tan fibrous material	NAD	90		10 Binders, paint
BA01-3535	MN03B	Ceiling tile - 1 x 1	Tan fibrous material	NAD	90		10 Binders, paint
BA01-3536	MN03C	Ceiling tile - 1 x 1	Tan fibrous material	NAD	90		10 Binders, paint
BA01-3537	MN03D	Ceiling tile - 1 x 1	Tan fibrous material	NAD	90		10 Binders, paint
BA01-3538	MN03E	Ceiling tile - 1 x 1	Tan fibrous material	NAD	90		10 Binders, paint
BA01-3539	MN04A	Ceiling tile - 2 x 4	Gray fibrous material	NAD	40	40	20 Binders, perlite, paint
BA01-3540	MN04B	Ceiling tile - 2 x 4	Gray fibrous material	NAD	40	40	20 Binders, perlite, paint

Samples were analyzed in general accordance with EPA 600/R-93/116 and relate only to items analyzed. Percentages were visually estimated; point count method was not utilized. Inhomogeneous samples were analyzed as separate subsamples: if asbestos was detected in a subsample, and the sample is considered to be practically inseparable, a combined asbestos percentage was indicated in proportion to overall abundance. Analysis was conducted with Polarized Light Microscopy coupled with dispersion staining. Laboratory not responsible for sampling technique. Report shall not be used to claim product endorsement by NIST/NVLAP or any other agency of the U.S. Government. This report is not to be reproduced except in full. Samples will be disposed of 30 calendar days after completion of the analysis unless otherwise arranged.

CHRY = Chrysotile
 AMOS = Amosite
 Other Asbestos = ¹Crocidolite
²Anthophyllite, ³Actinolite,
 or ⁴Tremolite

CELL = Cellulose
 FBGL = Fiberglass
 SYNT = Synthetics
 MWL = Mineral Wool
 NAD = No Asbestos Detected

Gregory Davis
 Gregory Davis
 Microscopist

7/5/01
 Date

OCCUPATIONAL HEALTH CONSERVATION, INC.
 1840 SOUTHSIDE BOULEVARD, SUITE 3C
 JACKSONVILLE, FLORIDA 32216
 NVLAP Lab Code 102050

Project: Naval Reserve Center
 5019 Airport road
 Duluth, MN

OHC Project No: 010904AL
OHC Lab Batch No: 9290
Date Analyzed: 7/5/2001

Lab Sample Number	Client Sample Number	Sample Identification	Layer/ Description	Asbestos Percentage CHRY-AMOS-Other	Non-Asbestos Fibers Percentage		Non-Fibrous Materials Percentage
					CELL-FBGL-MWL-SYNTH-WOLL-OTR		
BA01-3541	MN04C	Ceiling tile - 2 x 4	Gray fibrous material	NAD	40	40	20 Binders, perlite, paint
BA01-3542	MN05A	Ceiling tile - 2 x 4	Brown fibrous material	NAD	80		20 Binders, perlite, paint
BA01-3543	MN05B	Ceiling tile - 2 x 4	Brown fibrous material	NAD	80		20 Binders, perlite, paint
BA01-3544	MN05C	Ceiling tile - 2 x 4	Brown fibrous material	NAD	80		20 Binders, perlite, paint
BA01-3545	MN06A	Brown floor tile	Brown vinyl tile	NAD			100 Binders, vinyl, quartz, glt
BA01-3546	MN06B	Brown floor tile	Brown vinyl tile	NAD			100 Binders, vinyl, quartz, glt
BA01-3547	MN06C	Brown floor tile	Brown vinyl tile	NAD			100 Binders, vinyl, quartz, glt
BA01-3548	MN07A	Brown patterned floor tile	Brown marbled vinyl tile	NAD	2	2	96 Binders, vinyl, quartz, glt
BA01-3549	MN07B	Brown patterned floor tile	Brown marbled vinyl tile	NAD	2		98 Binders, bitumen, vinyl, quartz
BA01-3550	MN07C	Brown patterned floor tile	Brown marbled vinyl tile	NAD	2		98 Binders, bitumen, vinyl, quartz
BA01-3551	MN08A	Gray floor tile	Gray vinyl tile	8			92 Binders, vinyl, quartz

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Page 2 of 7

CHRY = Chrysotile
 AMOS = Amosite
 Other Asbestos = 'Crocidolite
 'Anthophyllite, 'Actinolite,
 or 'Tremolite

CELL = Cellulose
 FBGL = Fiberglass
 SYNT = Synthetics
 MWL = Mineral Wool
 NAD = No Asbestos Detected

Gregory Davis
 Gregory Davis
 Microscopist

7/5/01
 Date

OCCUPATIONAL HEALTH CONSERVATION, INC.
 1840 SOUTHSIDE BOULEVARD, SUITE 3C
 JACKSONVILLE, FLORIDA 32216
 NVLAP Lab Code 102050

Project: Naval Reserve Center
 5019 Airport road
 Duluth, MN

OHC Project No: 010904AI
OHC Lab Batch No: 9290
Date Analyzed: 7/5/2001

Lab Sample Number	Client Sample Number	Sample Identification	Layer/Description	Non-Asbestos Fibers Percentage		Non-Fibrous Materials Percentage
				Asbestos Percentage CHRY-AMOS-Other	CELL-FBGL-MWL-SYNTH-WOLL-OTR	
BA01-3552	MN08B	Gray floor tile	** Positive Stop			
BA01-3553	MN08C	Gray floor tile	** Positive Stop			
BA01-3554	MN09A	Brown floor tile	Brown vinyl tile	5		95 Binders, quartz, vinyl
			Black mastic	NAD		100 Binders, bitumen
BA01-3555	MN09B	Brown floor tile	** Positive Stop			
BA01-3556	MN09C	Brown floor tile	** Positive Stop			
BA01-3557	MN10A	Green floor tile	Green vinyl tile	5	2	93 Binders, quartz, vinyl
			Black mastic	NAD	2	98 Binders, bitumen
BA01-3558	MN10B	Green floor tile	** Positive Stop			
BA01-3559	MN10C	Green floor tile	** Positive Stop			
BA01-3560	MN11A	White vinyl flooring	White vinyl sheeting	NAD	50	50 Binders, vinyl, glue
BA01-3561	MN11B	White vinyl flooring	White vinyl sheeting	NAD	50	50 Binders, vinyl, glue
BA01-3562	MN11C	White vinyl flooring	White vinyl sheeting	NAD	50	50 Binders, vinyl, glue
BA01-3563	MN12A	Gypsum dry wall	Mat layer	NAD	90	10 Binders, paint

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Lab Sample Number	Client Sample Number	Sample Identification	Layer/ Description	Asbestos Percentage CHRY-AMOS-Other	Non-Asbestos Fibers Percentage		Non-Fibrous Materials Percentage
					CELL-FBGL-MWL-SYNT	WOLL-OTR	
BA01-3564	MN12B	Gypsum dry wall	Powder layer	NAD	10	5	85 Binders, gypsum
			Mat layer	NAD	90		10 Binders, paint
BA01-3565	MN12C	Gypsum dry wall	Powder layer	NAD	10	5	85 Binders, gypsum
			Mat layer	NAD	90		10 Binders, paint
BA01-3566	MN12D	Gypsum dry wall	Powder layer	NAD	10	5	85 Binders, gypsum
			Mat layer	NAD	90		10 Binders, paint
BA01-3567	MN12E	Gypsum dry wall	Powder layer	NAD	10	5	85 Binders, gypsum
			Mat layer	NAD	90		10 Binders, paint
BA01-3568	MN13A	Plaster	Powder layer	NAD	10	5	85 Binders, gypsum
			Gray and white granular material	NAD			100 Binders, aggregate, quart paint
BA01-3569	MN13B	Plaster	Gray and white granular material	NAD	2		98 Binders, aggregate, quart paint

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Lab Sample Number	Client Sample Number	Sample Identification	Layer/ Description	Asbestos Percentage		Non-Asbestos Fibers Percentage		Non-Fibrous Materials Percentage
				CHRY-AMOS-Other		CELL-FBGL-MWL-SYNTH-WOLL-OTR		
BA01-3570	MN13C	Plaster	Gray and white granular material	NAD				100 Binders, aggregate, quart paint
BA01-3571	MN15A	Joint compound / tape	White granular material with fibrous backing	NAD		10		90 Binders, carbonates, pain
BA01-3572	MN15B	Joint compound / tape	White granular material with fibrous backing	NAD		50		50 Binders, carbonates, pain
BA01-3573	MN15C	Joint compound / tape	White granular material with fibrous backing	NAD		10		90 Binders, carbonates, pain
BA01-3574	MN16A	TSI- Steam pipe	White fibrous material Woven cloth	10	30	3	100	57 Binders, carbonates 0
BA01-3575	MN16B	TSI- Steam pipe	** Positive Stop					
BA01-3576	MN16C	TSI- Steam pipe	** Positive Stop					

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Project: Naval Reserve Center
 5019 Airport road
 Duluth, MN

OHC Project No: 010904AI
OHC Lab Batch No: 9290
Date Analyzed: 7/5/2001

Lab Sample Number	Client Sample Number	Sample Identification	Layer/Description	Asbestos Percentage		Non-Asbestos Fibers Percentage	
				CHRY-AMOS-Other		CELL-FBGL-MWL-SYNTH-WOLL-OTR	Non-Fibrous Materials Percentage
BA01-3577	MN17A	TSI- Cold water line	Woven cloth	NAD		100	0
			Brown fibrous material	NAD		95	5 Binders
BA01-3578	MN17B	TSI- Cold water line	Woven cloth	NAD		100	0
			Brown fibrous material	NAD		95	5 Binders
BA01-3579	MN17C	TSI- Cold water line	Woven cloth	NAD		100	0
			Brown fibrous material	NAD		95	5 Binders
BA01-3580	MN18A	TSI - Wet wall piping	Black tar paper	30		50	20 Binders, bitumen
			Brown fibrous material	NAD		100	0
BA01-3581	MN18B	TSI - Wet wall piping	** Positive Stop				
BA01-3582	MN18C	TSI - Wet wall piping	** Positive Stop				
BA01-3583	MN19A	TSI - Boiler stack	Gray fibrous material	NAD		40	60 Binders, mica
BA01-3584	MN19B	TSI - Boiler stack	Gray fibrous layer	NAD		40	60 Binders, mica
			White fibrous layer	NAD		60	40 Binders
BA01-3585	MN19C	TSI - Boiler stack	Gray fibrous layer	NAD		40	60 Binders, mica

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Gregory Davis
 Gregory Davis
 Microscopist

7/5/01
 Date



Palmetto Laboratory, Inc.

2351 Fifth Avenue North • St. Petersburg, Florida 33713 • (727) 328-9850 FAX (727) 328-9830

Lab File # A04934,ohc
Project Name: 010904; Naval Reserve Center
Client Name: Occupational Health Conservation, Inc.
5118 North 56th Street
Tampa, Florida 33610

LAB NUMBER	CLIENT NUMBER	IDENTIFICATION	DESCRIPTION	ASBESTOS PERCENTAGE	NON-ASBESTOS FIBERS PERCENTAGE	BINDERS
128868	MN08BQ	Floor Tile	tile layer	4% Chrysotile		96% Carbonates and Binders
			mastic layer	2% Chrysotile	12% Synthetics	96% Bitumen and Binders
128869	MN09AQ	Floor Tile	tile layer	6% Chrysotile		94% Carbonates and Binders
			mastic layer	2% Chrysotile		98% Bitumen and Binders
128870	MN12CQ	Drywall	mat layer	NAD	85% Cellulose	15% Binders
			powder layer	NAD	2% Glass Fibers 1% Cellulose	97% Gypsum and Binders
128871	MN18AQ	Insulation	brown, fibrous	NAD	100% Cellulose	
128872	MN19CQ	Insulation	white, fibrous	NAD	12% Cellulose	88% Binders
128873	MN20BQ	Caulk	gray	NAD		100% Binders

Figure 3.1

CHAIN OF CUSTODY and SAMPLE SUBMITTAL FORM
OCCUPATIONAL HEALTH CONSERVATION, INC.
 Polarized Light Microscopy (PLM) Analysis/ Asbestos Identification

SAMPLES SUBMITTED BY:
G. DAVIS
OHC - Jay
 (Technician and Company)

Verbal Results to: OHC - Jay
 () Phone @ 904 725-8279
 Written Report to: OHC - Jay
 () Fax @ 904 721-2809

RECEIVED STAMP HERE

TURNAROUND TIME

same day ()
 24 hours (✓)
 3-5 days ()

Project Name: Naval Reserve Center Job Number: 010904AL
 Job Location: Duluth, MN
 Project Information: QA/QC Samples

Client Sample Number	Location and Sample Type
MN08B-Q	Gray Floor Tile
MN09A-Q	Brown Streaked Floor Tile
MN12C-Q	Wallboard
MN18A-Q	TSI - wetwall
MN19C-Q	Boiler Stack Insulation
MN20B-Q	Window Caulk

APPENDIX D

Serial #XL700-U946NR1894 Site: 1 Date: 6/28/2001

No	XLNo	Site	Insp	Flr	Side	Room	Strc	Sub	Feat	Cnd	Clr	Ssec	Date/Time	DI	Result	Pbc ± Prec
2	2											12.4	6/28/2001 08:04:12	8.8	NEG	-0.14 ± 0.83
3	3			2	C	Room 210	Wall Up			Intact	White	10.0	6/28/2001 08:08:23	1.0	NEG	-0.62 ± 0.88
4	4			2	D	Room 210	Wall Lwr			Intact	White	12.3	6/28/2001 08:10:31	4.5	NEG	-0.16 ± 0.79
5	5			2	B	Room 210	Door Lwr	Metal	Door	Intact	Grey	21.3	6/28/2001 08:12:32	9.5	NEG	-0.02 ± 0.78
6	6			2	B	Room 210	Door Lwr	Metal	Casing	Intact	Grey	18.8	6/28/2001 08:14:30	1.3	NEG	0.00 ± 0.08
8	8			2	A	Room 210	Wall Lwr	Metal	Radiator	Intact	White	12.4	6/28/2001 08:18:05	1.8	NEG	0.07 ± 0.08
9	9			2	D	Room 210	Wall Lwr	Wood	Baseboard	Intact	Grey	20.5	6/28/2001 08:20:00	2.0	NEG	0.19 ± 0.09
10	10			2	D	Room 210	Wall Lwr	Wood	Chair rail	Intact	Grey	20.7	6/28/2001 08:21:03	3.4	NEG	0.14 ± 0.15
11	11			2	A	Room 211	Wall 0	Wood	Chair rail	Intact	Orange	18.0	6/28/2001 08:25:47	1.3	NEG	0.47 ± 0.10
12	12			2	B	Room 211	Wall 0	Wood		Intact	Orange	9.9	6/28/2001 08:27:40	1.0	NEG	0.00 ± 0.01
13	13			2	D	Room 213	Door 0	Metal	Door	Intact	Grey	23.8	6/28/2001 08:30:51	7.6	NEG	0.07 ± 0.10
14	14			2	D	Room 213	Door 0	Metal	Casing	Intact	Grey	25.8	6/28/2001 08:32:42	2.7	NEG	0.01 ± 0.10
16	16			2	D	Room 213	Wall 0	Wood	Chair rail	Intact	Grey	5.3	6/28/2001 08:35:06	4.6	NEG	0.11 ± 0.38
17	17			2	D	Room 213	Wall 0	Wood	Chair rail	Intact	Grey	23.0	6/28/2001 08:35:17	4.1	NEG	0.10 ± 0.19
18	18			2	A	Room 213	Wall 0	Metal	Radiator	Intact	White	30.8	6/28/2001 08:36:41	4.2	NEG	0.12 ± 0.12
19	19			2	B	Room 214	Wall 0	Wood	Baseboard	Intact	Grey	22.3	6/28/2001 08:39:15	6.9	NEG	0.08 ± 0.15
20	20			2	B	Room 216	Wall Up	Drywall		Intact	White	21.4	6/28/2001 08:43:24	6.3	NEG	0.01 ± 0.05
21	21			2	C	Room 216	Wall Lwr	Drywall		Intact	White	14.5	6/28/2001 08:44:34	10.0	NEG	-0.15 ± 0.88
22	22			2	A	Room 216	Window	Wood	Sash	Intact	White	38.9	6/28/2001 08:51:24	9.9	POS	1.28 ± 0.51
23	23			2	A	Room 216	Window	Metal	Casing	Intact	Brown	16.9	6/28/2001 08:53:29	1.0	NEG	-0.07 ± 0.83
24	24			2	B	Room 201	Wall	Wood	Baseboard	Intact	Grey	13.8	6/28/2001 08:57:19	1.6	NEG	0.16 ± 0.10
25	25			2	B	Hall	Window	Wood	Sash	Intact	White	59.1	6/28/2001 08:59:00	8.6	POS	1.39 ± 0.50
26	26			2	C	Hall	Door	Metal	Door	Intact	Grey	41.8	6/28/2001 09:01:55	4.2	NEG	0.02 ± 0.07
27	27			2	C	Hall	Door	Metal	Casing	Intact	Grey	40.1	6/28/2001 09:03:37	3.0	NEG	0.17 ± 0.08
28	28			2	B	Bath	Wall	Plaster		Intact	White	12.3	6/28/2001 09:06:00	2.8	NEG	-0.52 ± 1.03
29	29			2	B	Bath	Wall	Metal	Radiator	Intact	Grey	21.3	6/28/2001 09:09:02	7.5	NEG	0.61 ± 0.40
30	30			2	D	Bath	Unlisted		Unlisted	Intact	White	22.1	6/28/2001 09:13:00	1.5	NEG	0.00 ± 0.02
31	31			2	D	Bath	Wall Lwr	Other		Intact	White	40.5	6/28/2001 09:15:07	3.1	NEG	0.04 ± 0.23
32	32			2	0	Bath 2	Wall	Metal	Radiator	Intact	Orange	25.5	6/28/2001 09:18:59	1.3	NEG	0.05 ± 0.03
33	33			2	0	Bath 2	Wall	Metal		Intact	Orange	21.6	6/28/2001 09:19:58	1.2	NEG	0.09 ± 0.04
34	34			2	C	Bath 2	Wall	Plaster		Intact	White	23.9	6/28/2001 09:21:45	1.8	NEG	0.04 ± 0.06
35	35			2	0	Area 2000	Floor	Concrte		Intact	Grey	25.7	6/28/2001 09:28:26	2.3	NEG	0.13 ± 0.08
36	36			2	A	Area 200	Door	Wood	Door	Intact	Grey	30.2	6/28/2001 09:30:38	1.1	NEG	0.02 ± 0.03
37	37			2	D	Area 200	Wall	Wood	Baseboard	Intact	Grey	20.5	6/28/2001 09:32:04	1.6	NEG	0.11 ± 0.07
38	38			2	B	Area 200	Wall	Plaster		Intact	White	14.5	6/28/2001 09:34:18	1.0	NEG	-0.27 ± 0.92
39	39			2	B	Room 213	Ceiling	Plaster		Intact	White	41.8	6/28/2001 09:36:20	1.9	NEG	0.09 ± 0.04
41	41											54.6	6/28/2001 11:37:54	1.1	POS	0.99 ± 0.07
42	42											46.8	6/28/2001 11:39:41	2.6	POS	1.13 ± 0.16
43	43			1	A	Room 118	Window	Wood	Sash	Intact	White	62.0	6/28/2001 11:46:36	10.0	POS	1.33 ± 0.50

o	XLNo	Site	Insp	Flr	Side	Room	Strc	Sub	Feat	Cnd	Clr	Ssec	Date/Time	DI	Result	Pbc ± Prec
1	44	1	1	1	D	Room 118	Wall	Drywall		Intact	White	9.8	6/28/2001 11:49:32	3.2	NEG	-0.64 ± 1.04
2	45	1	1	1	D	Room 118	Wall	Metal	Radiator	Intact	White	21.1	6/28/2001 11:50:27	10.0	NEG	-0.09 ± 0.77
3	46	1	1	1	C	Room 114	Wall	Metal	Radiator	Intact	White	21.2	6/28/2001 11:54:18	1.0	NEG	0.00 ± 0.06
4	47	1	1	1	D	Room 114	Closet	Wood	Door	Intact	Brown	23.4	6/28/2001 11:56:07	1.0	NEG	0.01 ± 0.02
5	48	1	1	1	D	Room 114	Window	Wood	Sash	Intact	Grey	44.0	6/28/2001 11:58:21	3.8	POS	1.13 ± 0.20
6	49	1	1	1	C	Room 114	Closet	Metal	Radiator	Intact	Grey	18.6	6/28/2001 12:00:35	7.2	NEG	0.03 ± 0.06
7	50	1	1	1	A	Room 120	Wall	Wood	Chair rail	Intact	Grey	40.8	6/28/2001 12:03:36	3.4	NEG	0.06 ± 0.09
8	51	1	1	1	B	Room 120	Wall	Wood	Baseboard	Intact	Grey	42.2	6/28/2001 12:05:12	1.0	NEG	0.00 ± 0.00
9	52	1	1	1	C	Room 120	Door	Metal	Casing	Intact	Grey	21.4	6/28/2001 12:07:14	3.3	NEG	0.02 ± 0.11
10	53	1	1	1	A	Hall	Door	Metal	Door	Intact	Brown	21.4	6/28/2001 12:09:18	1.7	NEG	0.01 ± 0.06
11	54	1	1	1	A	Hall	Door	Metal	Casing	Intact	Brown	23.0	6/28/2001 12:10:08	1.0	NEG	0.01 ± 0.01
12	55	1	1	1	A	Hall	Door	Wood	Door	Intact	Brown	22.5	6/28/2001 12:11:22	2.1	NEG	0.04 ± 0.11
13	56	1	1	1	C	Room 124	Wall Up	Drywall		Intact	White	41.1	6/28/2001 12:17:18	6.3	NEG	0.01 ± 0.04
14	57	1	1	10	A	Room 124	Window	Wood	Sash	Intact	White	25.6	6/28/2001 12:20:14	10.0	POS	1.91 ± 0.75
15	58	1	1	1	A	Room 125	Window	Metal	Casing	Intact	Brown	28.1	6/28/2001 12:22:52	1.0	NEG	0.00 ± 0.01
16	59	1	1	1	B	Room 125	Door	Metal	Door	Intact	Grey	41.2	6/28/2001 12:24:27	1.5	NEG	0.01 ± 0.04
17	60	1	1	1	A	Room 127	Wall	Drywall		Intact	White	23.5	6/28/2001 12:28:06	3.9	NEG	0.05 ± 0.16
18	61	1	1	1	A	Room 127	Window	Wood	Sash	Intact	White	63.2	6/28/2001 12:29:03	10.0	POS	1.13 ± 0.46
19	62	1	1	1	C	Room 127	Wall	Wood	Baseboard	Intact	Grey	11.9	6/28/2001 12:31:26	1.0	NEG	0.00 ± 0.01
20	63	1	1	1	C	Room 127	Wall	Wood	Baseboard	Intact	Grey	20.7	6/28/2001 12:32:19	1.0	NEG	0.00 ± 0.01
21	64	1	1	1	C	Room 101	Wall	Metal	Radiator	Intact	White	25.6	6/28/2001 12:34:25	1.0	NEG	0.00 ± 0.07
22	65	1	1	1	C	Room 101	Window	Wood	Sash	Intact	White	51.9	6/28/2001 12:35:41	10.0	POS	1.33 ± 0.64
23	66	1	1	1	C	Room 101	Ceiling	Plaster		Intact	White	12.3	6/28/2001 12:37:54	1.0	NEG	0.00 ± 0.01
24	68	1	1	1	C	Hall	Wall	Plaster		Intact	White	22.6	6/28/2001 12:39:57	4.7	NEG	0.07 ± 0.20
25	69	1	1	1	C	Hall	Door	Metal	Door	Intact	Grey	21.2	6/28/2001 12:41:24	1.0	NEG	0.00 ± 0.01
26	70	1	1	1	C	Bath	Wall	Metal		Intact	Blue	21.1	6/28/2001 12:43:08	1.1	NEG	0.02 ± 0.03
27	71	1	1	1	B	Bath	Wall	Other		Intact	Blue	6.0	6/28/2001 12:46:37	1.7	POS	11.93 ± 2.63
28	72	1	1	1	D	Bath	Wall	Other		Intact	Blue	17.0	6/28/2001 12:47:18	1.6	NEG	0.21 ± 0.11
29	73	1	1	1	D	Bath	Wall	Other		Intact	Blue	12.2	6/28/2001 12:47:54	3.8	NEG	0.36 ± 0.36
30	74	1	1	1	D	Bath	Wall	Other		Intact	Blue	5.6	6/28/2001 12:48:27	2.0	POS	17.18 ± 3.33
31	75	1	1	1	B	Bath	Wall Up	Plaster		Intact	Blue	23.6	6/28/2001 12:49:19	3.5	NEG	0.09 ± 0.13
32	76	1	1	1	C	Bath	Wall	Other		Intact	Blue	5.4	6/28/2001 12:51:44	1.9	POS	16.79 ± 3.34
33	77	1	1	1	D	Bath 2	Wall	Other		Intact	Yellow	3.9	6/28/2001 12:53:37	1.9	POS	15.40 ± 3.83
34	78	1	1	1	D	Bath 2	Wall Up	Plaster		Intact	White	21.6	6/28/2001 12:54:26	5.6	NEG	0.04 ± 0.11
35	79	1	1	1	D	Bath 2	Wall	Metal	Radiator	Intact	Yellow	9.4	6/28/2001 12:55:31	4.0	NEG	0.03 ± 0.13
36	80	1	1	1	D	Bath 2	Wall	Metal		Intact	Yellow	21.7	6/28/2001 12:56:17	1.8	NEG	0.13 ± 0.07
37	82	1	1	1	0	Area	Stairs	Concrte	Stringer	Intact	Grey	18.7	6/28/2001 13:01:43	1.7	NEG	-0.23 ± 0.87
38	83	1	1	1	0	Area	Stairs	Metal	Baluster	Intact	Black	21.4	6/28/2001 13:03:50	2.3	NEG	0.29 ± 0.11
39	84	1	1	1	0	Area	Stairs	Concrte	Tread	Intact	Grey	12.2	6/28/2001 13:05:38	7.1	NEG	0.13 ± 0.21
40	85	1	1	1	A	Outside 0	House	Stucco	Wall	Intact	Beige	16.8	6/28/2001 13:08:06	5.5	NEG	-0.35 ± 0.68

Site: 1 Date: 6/28/2001

Paint Page 3

No	XLNo	Site	Insp	Flr	Side	Room	Strc	Sub	Feat	Cnd	Clr	Ssec	Date/Time	DI	Result	Pbc ± Prec
86	86	1	1	1	A	Outside 0	Door	Metal	Wall	Intact	Brown	7.0	6/28/2001 13:09:10	2.0	NEG	0.01 ± 0.14
87	87	1	1	1	A	Outside 0		Metal	Downspout	Intact	Brown	10.1	6/28/2001 13:10:03	1.0	NEG	-0.60 ± 0.81
88	88	1	1	1	D	Outside 0	Ext Wall	Stucco	Celwin sill	Intact	Beige	23.4	6/28/2001 13:11:21	10.0	NEG	0.22 ± 0.70
89	89	1	1	1	D	Outside 0	Window	Metal	Casing	Intact	Brown	14.6	6/28/2001 13:12:49	1.0	NEG	0.00 ± 0.01
90	94	1	1	1	C	Outside 0	Stairs	Metal	Stringer	Intact	Brown	41.8	6/28/2001 13:22:06	1.0	NEG	0.01 ± 0.01
91	95	1	1	1	C	Outside 0	Wall	Stucco		Intact	Beige	14.2	6/28/2001 13:24:01	1.0	NEG	-0.10 ± 0.73
92	90	2	1	1	B	Outside 0	Window	Stucco	Sash Ext	Intact	Brown	23.5	6/28/2001 13:14:39	1.7	NEG	0.01 ± 0.09
93	91	2	1	1	D	Outside 0	Wall	Concrte		Intact	Beige	21.6	6/28/2001 13:16:51	4.6	NEG	0.01 ± 0.04
94	92	2	1	1	D	Outside 0	Door	Metal	Door	Peeling	Brown	21.5	6/28/2001 13:18:09	10.0	NEG	0.07 ± 0.72
95	93	2	1	1	C	Outside 0	Door	Wood	Door	Intact	White	4.2	6/28/2001 13:20:31	1.0	NEG	0.01 ± 0.16

APPENDIX E

United States Department of Commerce
National Institute of Standards and Technology

NVLAP[®]

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation



OCCUPATIONAL HEALTH CONSERVATION, INC.
JACKSONVILLE, FL

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

BULK ASBESTOS FIBER ANALYSIS

March 31, 2001

Effective through

David F. Alderman

For the National Institute of Standards and Technology

NVLAP Lab Code: 102050-0

McCRONE RESEARCH INSTITUTE

certifies that

Gregory W. Davis

has successfully completed an intensive course of instruction in

Microscopical Identification of Asbestos

given by the McCrone Research Institute

Presented this 18th day of August 2000

*Course Date: August 14-18, 2000
3.5 CEU's*

Larry J. Laughlin

David A. Sperry

NITON

CORPORATION

Certificate of Achievement

Mike Emerson

OHC Environmental

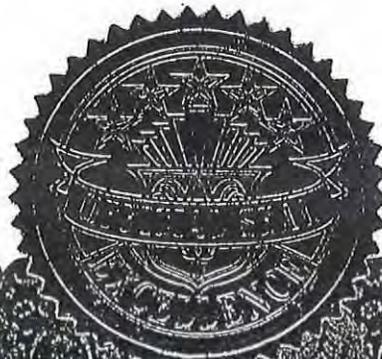
*has successfully completed the Manufacturer's Training Course for the
NITON Spectrum Analyzer and is now certified
in radiation safety and monitoring, measurement technology,
and machine maintenance of the NITON XRF Spectrum Analyzer.
(CIH's - The ABIH awards 1 CM point, approval #5827)*

99091561240

Certificate Number

07/22/99 Duluth, GA

Date & Site of Course



Victoria Gzybisaki

Training Coordinator

Kenneth P. Smith

Director of Training

ENVIRONMENTAL SAFETY & HEALTH INSTITUTE

1840 Southside Blvd., Suite 3-C, Jacksonville, FL 32216

Certify that

Michael E. Emerson

Certificate No. 2178

has successfully completed the requisite training for

3 Day Asbestos Building Inspector

This course meets the requirements for the revised Model Accreditation Plan as required by TSCA Title II

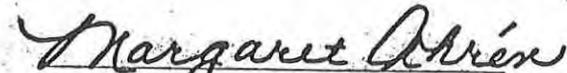
and in evidence thereof is awarded this

Certificate of Completion


James Rizk
Institute Director

Date of Attendance 22-Sep-99




Margaret Ahren
Training Administrator

Expiration Date 22-Sep-00

ENVIRONMENTAL SAFETY & HEALTH INSTITUTE

1840 Southside Blvd., Suite 3-E, Jacksonville, FL 32216

904-721-8566

Certify that

Michael E. Emerson

Certificate No. 4151

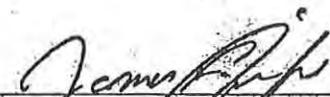
has successfully completed the requisite training for

1/2 Day Asbestos Building Inspector Refresher

This course meets the requirements for the revised Model Accreditation Plan as required by TSCA Title II

and in evidence thereof is awarded this

Certificate of Completion

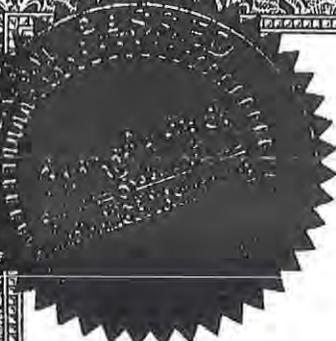

James Rizk
Institute Director

Date of Exam 30-Aug-00




Margaret Ahren
Training Administrator

Expiration Date 30-Aug-01



Georgia Institute of Technology

This is to certify that

Mike E. Emerson, Jr.

1840 Southside Blvd., #3-C
Jacksonville, FL 32216
253-47-3948

has attended and satisfactorily passed a skills assessment and examination (given in English and held in Atlanta, Georgia) covering the contents of an initial Continuing Education Course entitled:

Lead-Based Paint Risk Assessment

September 28-29, 2000

Dates of Attendance

September 29, 2000

Examination Date

September 29, 2003

Expiration Date

Georgia Tech Research Institute
Electro-Optics, Environment and Materials Laboratory
Atlanta, Georgia 30332
Phone: (404) 894-7430; FAX: (404) 894-1267

Vicki H. Ainslie

Vicki Hanrahan Ainslie
Lead Program Manager

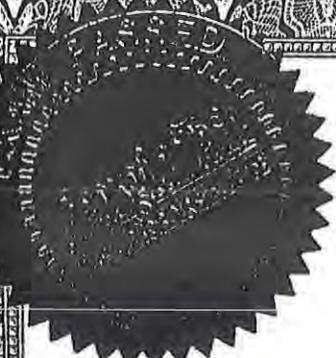
Myrtle A. Turner

Myrtle A. Turner, PhD, CET
Course Director

1072

Certificate Number

• EPA regulations mandate an *interim* expiration date which is March 29, 2001.



Georgia Institute of Technology

This is to certify that

Mike E. Emerson, Jr.

*1840 Southside Blvd., Suite 3-C
Jacksonville, FL 32216
253-47-3948*

has attended and satisfactorily passed a skills assessment and examination (given in English and held in Atlanta, Georgia) covering the contents of an initial Continuing Education Course entitled:

Inspecting for Lead-Based Paint

September 25-27, 2000

Dates of Attendance

September 27, 2000

Examination Date

September 27, 2003

Expiration Date

Georgia Tech Research Institute
Electro-Optics, Environment and Materials Laboratory
Atlanta, Georgia 30332
Phone: (404) 894-7430; FAX: (404) 894-1267

Vicki H. Ainslie

Vicki Hanrahan Ainslie
Lead Program Manager

Myrtle I. Turner

Myrtle I. Turner, PhD, CET
Course Director

1584

Certificate Number

* EPA regulations mandate an interim expiration date which is March 27, 2001 .