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ASBESTOS-CONTAINING MATERIAL RE-INSPECTION SURVEY FOR BUILDING 645 CNC
CHARLESTON SC
4/29/2002
BAT ASSOCIATES, INC.

Asbestos-Containing Material Re-inspection Survey for Building 645 Charleston Naval Complex Charleston, South Carolina

Contract No. N62467-96-D-0998
Delivery Order No. 0045

Prepared for:

Department of the Navy
Southern Division
NAVFACENGCOM
2155 Eagle Drive
North Charleston, SC 29419

Prepared by:

BAT Associates, Inc.
5151 Brook Hollow Parkway
Suite 250
Norcross, Georgia 30071
Contact Person: Mr. Douglas J. Milton, CIH
(770) 242-3908

April 29, 2002

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Survey for Building 645
Charleston Naval Complex
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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) re-inspection survey of Building 645 located at the Charleston Naval Complex in Charleston, South Carolina.

1.1 Asbestos-Containing Material Summary

Physical inspection and confirmatory laboratory analysis of bulk samples resulted in the identification of the following materials with asbestos concentrations greater than one percent in Building 645.

Table 1.0 Summary of Identified ACM

Material Description	ACM Location	Approximate Quantity	NESHAP Category
Floor Tile, 12" x 12" tan w/ black mastic	Room 101 and 105	330 SF in Room 101; and 613 SF in Room 105	Category I, non-friable
Floor Tile, 12' x 12" red and brown w/ black mastic	Rooms 101 and 103, under blue and orange floor tile	330 SF in Room 101; and 195 SF in Room 103	Category I, non-friable
Pipe Fitting Insulation	Room 102, on roll up door and Room 101 corner	3 EA in Room 102; 5 EA in Room 101	Regulated, friable
Ceiling Tile, 2' x 4', white suspended	Room 101	330 SF	Regulated, friable
Roof Tar, on built-up	Roof	1,600 SF	Category I, non-friable
Roof Flashing, black	Roof	175 SF	Category I, non-friable
Fier Door Insulation	Between rooms 102 and 104	1 Door	Category I, non-friable

NOTES: SF= Square Feet LF = Linear Feet EA = Each

NESHAP = National Emission Standards for Hazardous Air Pollutants

1. One percent or less asbestos content is considered a non-asbestos-containing material by EPA and the State of South Carolina.
2. NESHAP requires 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.
3. No Quality Control discrepancies in laboratory analyses were noted.

2.0 BUILDING INSPECTION INFORMATION

Building Name: Administration Building

Building Number: 645

Facility: Charleston Naval Complex
Charleston, SC

Building Square Footage: 1,600

Year Built: 1968

Building Type: Administration

No. of Floors in Building: 1 floor on slab with basement, no
attic and no crawl space

Purpose of ACM Survey: Re-Inspection

**Facility Unit Identification Code
(UIC):** N/A

Building Contact: Mr. Glenn Hill

Contact's Telephone No.: (843) 746-1771

Building Survey Date(s): April 2, 2002

Asbestos Inspector's Name: Mr. Steven Adams

Asbestos Inspector's Accreditation No: GA7021

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), re-inspection survey of Building 645 located at the Charleston Naval Complex in Charleston, South Carolina. This report discusses this survey and its results. The report presents the ACM survey in Section 4.0. This section describes the identified suspect materials, analytical results, and quality control results. Section 5.0 discusses the conclusions of the overall survey. Appendix A describes the details of the ACM assessment protocols and sampling methodology. Appendix B contains drawings identifying the locations of collected samples and identified ACM. Appendix C contains photographic documentation of identified ACM. Appendix D contains asbestos laboratory analysis results. 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), the Asbestos School Hazard Abatement Reauthorization Act (ASHARA), and the South Carolina Department of Health and Environmental Control (DHEC).

The inspection survey was carried out by Mr. Steven Adams on April 2, 2002 under the direction of Mr. Douglas J. Milton, CIH. Mr. Adams is an accredited asbestos building inspector and management planner. Mr. Milton is an accredited asbestos building inspector, management planner, and a Certified Industrial Hygienist.

4.1 Asbestos Inventory and Assessment

Fifteen homogeneous areas (materials) were identified during the survey. Table 2.0 describes the suspect ACM identified in and around Building 645. 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 2.0 List of Identified Suspect ACM

HA No.	Description of Suspect ACM	Location of Suspect ACM	AHERA Category of Material
01	Base Cove, black rubber w/ white and/ or yellow mastic	Room 105	N/A
02	Floor Tile, 12"x 12" tan w/ mastic	Room 101 and 105	M
03	Base Cove, brown rubber w/ white and/or yellow mastic	Room 105	N/A

HA No.	Description of Suspect ACM	Location of Suspect ACM	AHERA Category of Material
04	Joint Sealer Compound and Tape, on drywall	Room 105, on walls	N/A
05	Ceiling Tile, 2'x 4' white suspended	Rooms 101, 102, 103, 104A and 105	N/A
07	Ceramic Tile, brown 2"x 4" w/ grout and caulking	Room 104	N/A
09	Floor Tile 12"x 12" blue w/ black mastic	Room 103 over red floor tile	N/A
10	Floor Tile 12"x 12" red w/ black mastic	Rooms 101 and 103 under blue and orange floor tile	Non
11	Floor Tile 12"x 12" orange and brown w/ black mastic	Room 101 over red floor tile	N/A
12	Pipe Fitting Insulation	Room 102, on roll up door; and Room 101 corner	TSI
14	Ceiling Tile 2'x 4' white suspended	Room 101	M
15	Roof, tar on built-up	Roof	M
16	Roof Shingles	Roof	N/A
17	Roof Flashing, on built-up	Roof	M
18	Fire Door Insulation	Between Rooms 102 and 104	M

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

4.2 Summary of Asbestos Sample Analysis Results

Seven suspect homogeneous area (material) was found to contain asbestos. Table 3.0 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 3.0 Summary of ACM Sample Analysis Results

HA No.	Sample ID Nos.	Suspect Material Description	Asbestos Content	Friability
01	001, 004, 006	Base Cove, black rubber w/ white and/or yellow mastic	NAD	N/A
02	645-04-01, 645-04-02, 645-04-03	Floor Tile, 12"x 12" tan w/ mastic	Tile = NAD (by TEM); Mastic = 3% chrysotile	Non
03	005, 011	Base Cove, brown rubber w/ white and/or yellow mastic	NAD	N/A
04	008, 645-05-01,	Joint Sealer Compound and Tape, on drywall	NAD	N/A

HA No.	Sample ID Nos.	Suspect Material Description	Asbestos Content	Friability
	645-05-02			
05	012, 013, 051	Ceiling Tile, 2'x 4' white suspended	NAD	N/A
07	018, 645-07-01, 645-07-02	Ceramic Tile, brown 2"x 4" w/ grout and caulking	NAD	N/A
09	645-03-01, 645-03-02, 645-03-03	Floor Tile 12"x 12" blue w/ black mastic	Tile = NAD, Mastic = NAD (by TEM)	N/A
10	645-02-01, 645-02-02, 645-02-03	Floor Tile 12"x 12" red w/ black mastic	Tile = 2% chrysotile, Mastic = NAD	Non
11	645-01-01, 645-01-02, 645-01-03	Floor Tile 12"x 12" orange and brown w/ black mastic	Tile = NAD, Mastic = NAD (by TEM)	N/A
12	042	Pipe Fitting Insulation	>1% chrysotile	Friable
14	017, 048, 049, 050	Ceiling Tile 2'x 4' white suspended	>1% Amosite, >1% chrysotile	Friable
15	645-10-02	Roof, tar on built-up	3% chrysotile	Non
16	645-11-01, 645-11-02, 645-11-03	Roof Shingles	NAD	N/A
17	645-12-01, 645-12-02, 645-12-03	Roof Flashing, on built-up	15% chrysotile	Non
18	Assumed	Fire Door Insulation	>1% asbestos	Non

Notes: NAD = No Asbestos Detected N/A = Not Applicable

4.3 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 of sample results can be found in Table 4.0.

Table 4.0 Validation of Asbestos QC Sample Results

Sample I.D. No.	Primary Laboratory Analysis Results	QC Laboratory Analysis Results
645-QC-01	NAD	<1% chrysotile

No analysis discrepancies were noted from quality control sampling.

5.0 CONCLUSIONS

5.1 Asbestos-Containing Materials

Physical inspection of Building 645 and confirmatory laboratory analysis of the bulk samples resulted in the identification of the following materials with asbestos concentrations greater than one percent.

Table 5.0 List of Identified Asbestos-Containing Materials

Material Description	ACM Location	Approximate Quantity	NESHAP Category
Floor Tile, 12" x 12" tan w/ black mastic	Room 101 and 105	330 SF in Room 101; and 613 SF in Room 105	Category I, non-friable
Floor Tile, 12' x 12" red and brown w/ black mastic	Rooms 101 and 103, under blue and orange floor tile	330 SF in Room 101; and 195 SF in Room 103	Category I, non-friable
Pipe Fitting Insulation	Room 102, on roll up door and Room 101 corner	3 EA in room 102; 5 EA in room 101	Regulated, friable
Ceiling Tile, 2'x 4', white suspended	Room 101	330 SF	Regulated, friable
Roof Tar, on built-up	Roof	1,600 SF	Category I, non-friable
Roof Flashing, black	Roof	175 SF	Category I, non-friable
Fire Door Insulation	Between Rooms 102 and 104	1 Door	Category I, non-friable

NOTES: SF= Square Feet LF = Linear Feet EA = Each

6.0 SPECIAL CONSIDERATIONS RELATED TO ABATEMENT

This building has been abandon. It does not have any furniture or furnishings that would interfere with abatement. On the day of the survey, the building had running water but no electricity. The building does not have built-in access to the roof.

APPENDIX A

**Description of ACM Assessment Protocols
and Sampling Methodology**

Asbestos Assessment Protocol

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 within 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 *ACM Sampling Methodology*, below).

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.

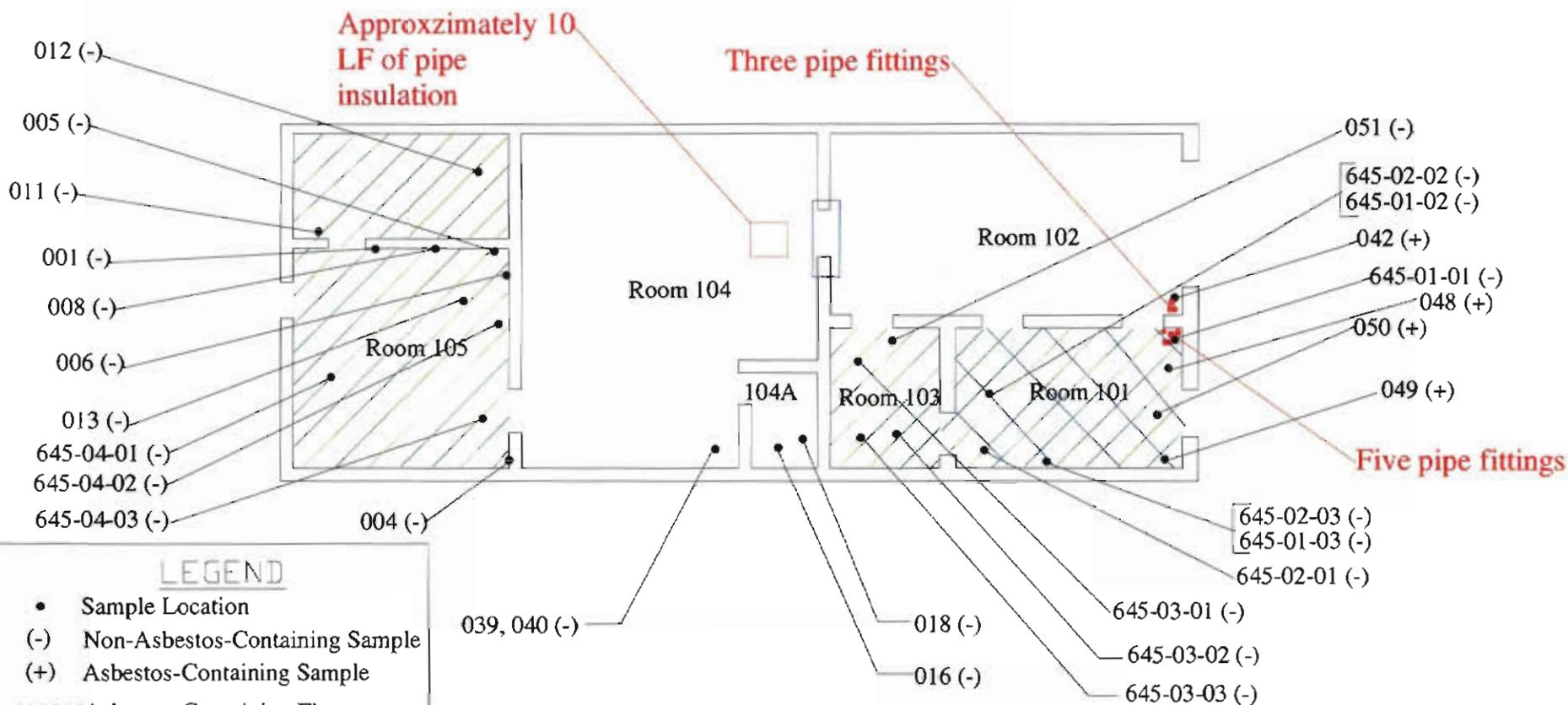
The procedures followed for collection of each bulk sample are outlined briefly below:

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 Analytical Environmental Services, Inc. (AES) Asbestos Laboratories in Atlanta, Georgia, for Polarized Light Microscopy (PLM) analysis. AES participates in the National Voluntary Laboratory Assurance Program (NVLAP) for the analysis of asbestos content in suspect materials. AES's NVLAP Laboratory Code is 102033-0.
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.

APPENDIX B

ACM Sample and Location Drawings



LEGEND

- Sample Location
- (-) Non-Asbestos-Containing Sample
- (+) Asbestos-Containing Sample
- ▨ Asbestos-Containing Floor Tile and Mastic
- ▩ Asbestos-Containing Ceiling Tile
- Asbestos-Containing Mastic on Pipe and Pipe Fitting
- ▭ Asbestos-Containing Pipe Insulation
- ▭ Asbestos-Containing Fire Door Insulation

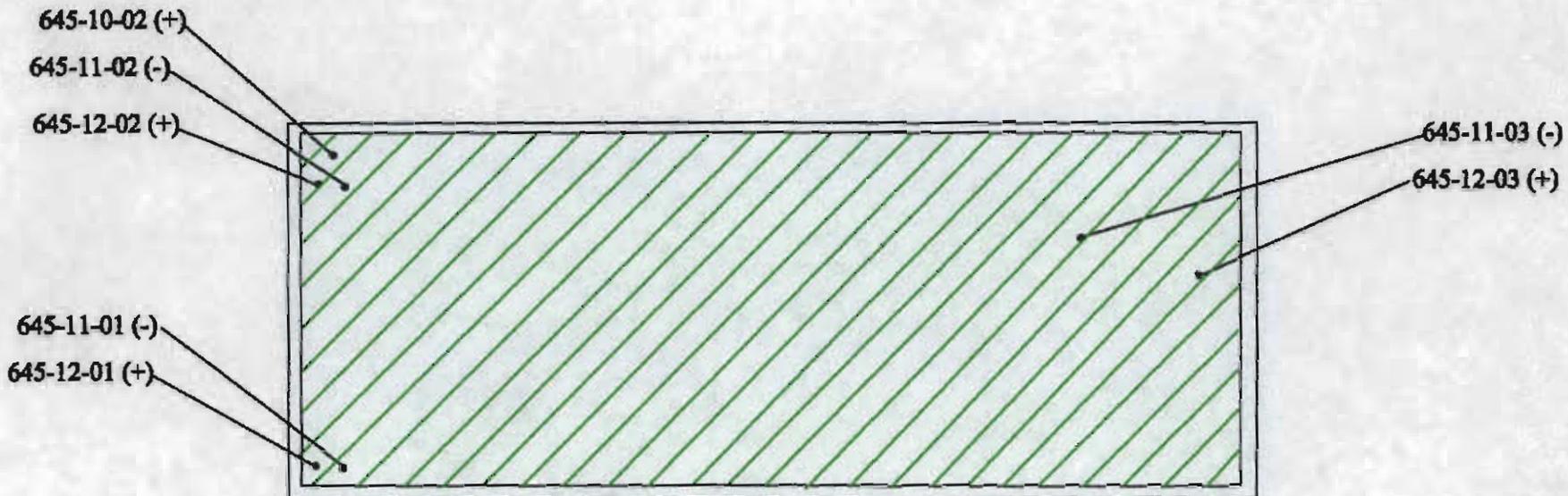
BUILDING 645
 Charleston Naval Base, Charleston, SC
 Asbestos-Containing Material and Sample Locations



Not To Scale

NOTE: Rooms 101 and 103 have multiple layers of floor tile.

BAT Associates, Inc
 ENVIRONMENTAL, HEALTH & SAFETY SERVICES
 5151 BROOK HOLLOW PARKWAY, SUITE 250
 NORCROSS, GA 30071



LEGEND

- Sample Location
- (-) Non-Asbestos-Containing Sample
- (+) Asbestos-Containing Sample
- //// Asbestos-Containing Roofing
- //// Tar and Flashing

BUILDING 645 ROOF
 Charleston Naval Base, Charleston, SC
Asbestos-Containing Material and Sample Locations



Not To Scale

BAT Associates, Inc.
 ENVIRONMENTAL, HEALTH & SAFETY SERVICES
 5151 BROOK HOLLOW PARKWAY, SUITE 250
 NORCROSS, GA 30071

APPENDIX C

Photographic Documentation of Identified ACM

APPEN



Floor Tile, 12" x 12" tan w/ black mastic, HA# 02



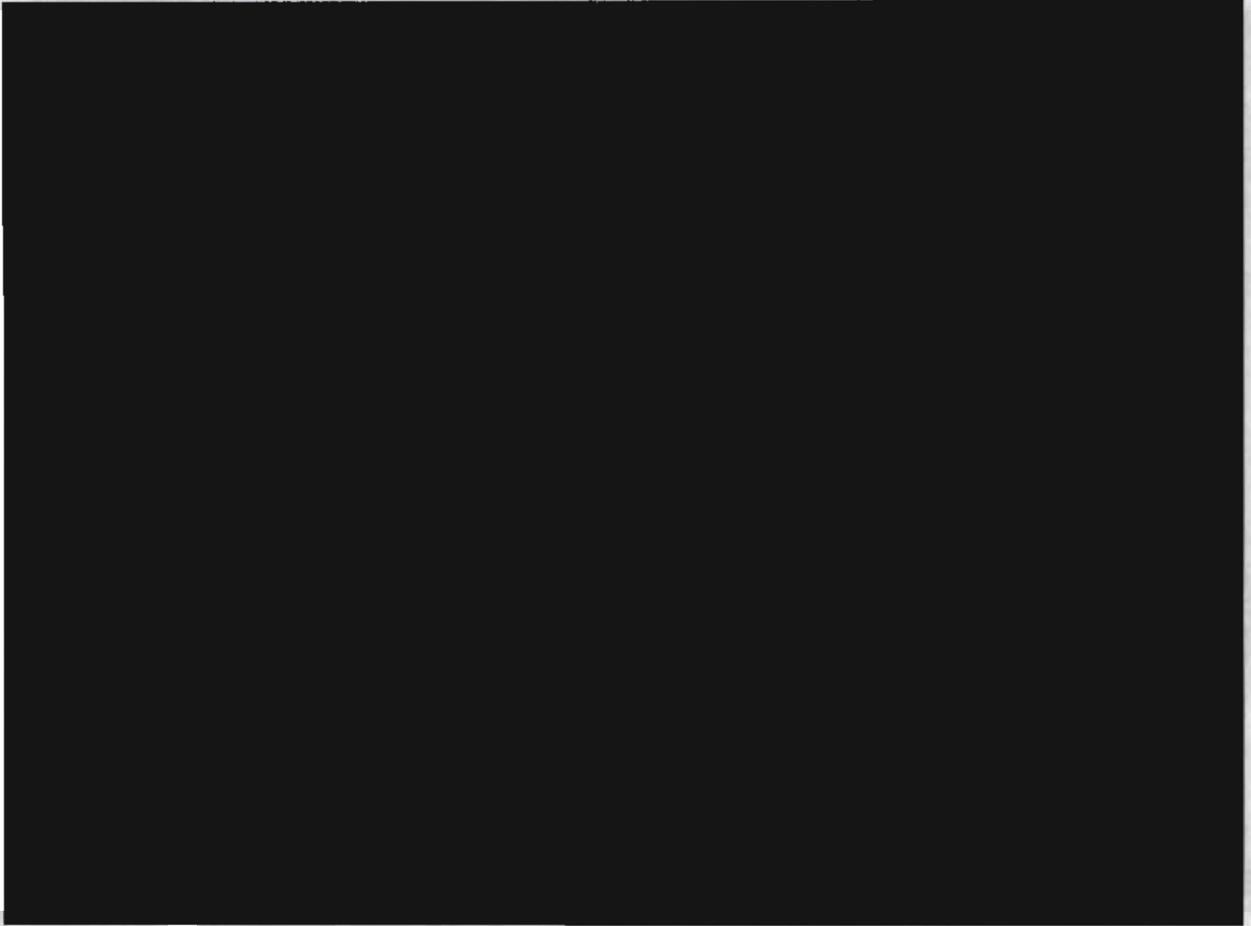
Floor Tile, 12" x 12" blue w/ black mastic, HA# 09



Floor Tile, 12" x 12" red and brown w/ black mastic HA# 10



Floor Tile, 12" x 12" orange and brown w/ black mastic, HA# 11



Ceiling Tile, 2'x4' white suspended, HA #05



Roof Tar and Flashing, on built up roof, HA# 15 and #16

APPENDIX D

ACM Laboratory Analysis Results



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
Bulk Sample Summary Report

NVLAQ

Client Name: **B A T Associates, Inc.**
 Project Name: **State Dept. Bldg. - Charleston Naval Complex**
 Project Number: **971001 task no. 45.0**

AES Job Number: **B9685**
 Tuesday, May 07, 2002

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
645-01-01	91659								
645-01-02	91660								
645-01-03	91661								
645-02-01	91662		2						Floor tile contains 2% chrysotile. Bitumen & glue. No asbestos detected.
645-02-02	91663								Not analyzed. Previous sample positive.
645-02-03	91664								Not analyzed. Previous sample positive.
645-03-01	91665								
645-03-02	91666								
645-03-03	91667								

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite.
 For comments on the samples, see the individual analysis sheets.

PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nonfriable materials. Quantitative TEM is currently the only method that can be used to determine the conclusive asbestos content.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0. All percentages given are by visually estimated volume. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/800/R-93/116, July 1993." This report must not be reproduced except in full with the approval of Analytical Environmental Services, Inc. These test results apply only to the samples actually tested.

Microanalyst:
 Arkady Gendlin

QC Analyst:
 Svetlana Arkhipov



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
Bulk Sample Summary Report



Client Name: **B A T Associates, Inc.**

AES Job Number: **B9685**

Project Name: **State Dept. Bldg. - Charleston Naval Complex**

Tuesday, May 07, 2002

Project Number: **971001 task no. 45.0**

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
645-04-01	91668		<1						Bitumen contains 3% chrysotile. Floor tile. No asbestos detected.
645-04-02	91669		<1						Bitumen contains 3% chrysotile. Floor tile. No asbestos detected.
645-04-03	91670		<1						Bitumen contains 3% chrysotile. Floor tile. No asbestos detected.

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite.
 For comments on the samples, see the individual analysis sheets

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Microanalyst:
 Arkadiy Gendlin

QC Analyst:
 Svetlana Arkhipov



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
Bulk Sample Summary Report

NVLAQ

Client Name: **B A T Associates, inc.**
 Project Name: **Charleston Naval Complex**
 Project Number: **971001 task 45.03**

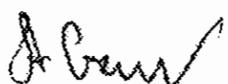
AES Job Number: **B9836**
 Tuesday, May 21, 2002

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
645-05-01	93210								Paint included as binder.
645-05-02	93211								Paint included as binder.
645-07-01	93212								Paint included as binder.
645-07-02	93213								Paint included as binder.
645-13-01	93214								
645-13-02	93215								

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite.
 For comments on the samples, see the individual analysis sheets.

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Microanalyst: 
 Arkadiy Gendlin

QC Analyst: 
 Svetlana Arkhipov



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
Bulk Sample Summary Report



Client Name: **B A T Associates, Inc.**

AES Job Number: **B9401**

Project Name: **State Dept. Bldg. Charleston Naval Complex**

Wednesday, April 17, 2002

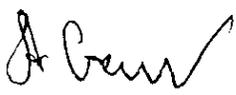
Project Number: **971001 task no. 45.0**

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
645-10-01	88149								
645-10-02	88150		3						
645-10-03	88151								
645-11-01	88152								
645-11-02	88153								
645-11-03	88154								
645-12-01	88155		15						
645-12-02	88156		15						
645-12-03	88157		15						

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite.
 For comments on the samples, see the individual analysis sheets.

PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nonfriable materials. Quantitative TEM is currently the only method that can be used to determine the conclusive asbestos content.

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Microanalyst: 
 Arkadiy Gendlin

QC Analyst: 
 Svetlana Arkhipov



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
Bulk Sample Summary Report



Client Name: **B A T Associates, Inc.**

AES Job Number: **B9401**

Project Name: **State Dept. Bldg. Charleston Naval Complex**

Wednesday, April 17, 2002

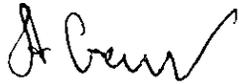
Project Number: **971001 task no. 45.0**

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
645-QC-01	88158		<1						Layer #2 contains 5% chrysotile. Layers #1,3: No asbestos detected.

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite.
 For comments on the samples, see the individual analysis sheets.

PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nonfriable materials. Quantitative TEM is currently the only method that can be used to determine the conclusive asbestos content.

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Microanalyst: 
 Arkadiy Gendlin

QC Analyst: 
 Svetlana Arkhipov



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BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc. Project Number: 971001 task 45.03
 Project Name: Charleston Naval Complex AES Lab ID: 93210
 Client Sample ID: 645-05-01
 Location:

Sample Description: Layered: 1) Light gray semi-hard silty with fibers, mica & paint; 2) Light brown soft fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	2
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	
Mineral Wool:		Bitumen:	
Fiberglass:		Resilient Material:	
Cellulose:	35	Glue:	
Animal Hair:		Binders:	63
Antigorite:			

COMMENTS: Paint included as binder.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst:

Arkadiy Gendlin

QCAnalyst:

Svetlana Arkhipov

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AES Job Number: B9836
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 Tuesday, May 21, 2002



BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc. Project Number: 971001 task 45.03
 Project Name: Charleston Naval Complex AES Lab ID: 93211
 Client Sample ID: 645-05-02
 Location:

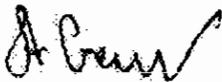
Sample Description: Layered: 1) Light gray semi-hard silty with fibers, mica & paint; 2) Light brown soft fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	2
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	
Mineral Wool:		Bitumen:	
Fiberglass:		Resilient Material:	
Cellulose:	35	Glue:	
Animal Hair:		Binders:	63
Antigorite:			

COMMENTS: Paint included as binder.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst: 
 Arkady Gendlin

QCAAnalyst: 
 Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: Charleston Naval Complex Project Number: 971001 task 45.03
 Client Sample ID: 645-07-01 AES Lab ID: 93212
 Location:

Sample Description: Layered: 1) Beige hard silty with fibers; 2) Light gray semi-hard partly granular with fibers.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	2
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	
Mineral Wool:		Bitumen:	
Fiberglass:		Resilient Material:	
Cellulose:	1	Glue:	
Animal Hair:		Binders:	97
Antigorite:			

COMMENTS: Paint included as binder.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst:
 Arkady Gendlin

QCAnalyst:
 Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: **B A T Associates, Inc.** Project Number: **971001 task 45.03**
 Project Name: **Charleston Naval Complex** AES Lab ID: **93213**
 Client Sample ID: **645-07-02**
 Location:

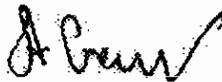
Sample Description: **Beige hard silty with fibers.**

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	
Mineral Wool:		Bitumen:	
Fiberglass:		Resilient Material:	
Cellulose:	1	Glue:	
Animal Hair:		Binders:	99
Antigorite:			

COMMENTS: **Paint included as binder.**

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst: 
 Arkadiy Gendlin

QCAlyst: 
 Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: Charleston Naval Complex
 Client Sample ID: 645-13-01
 Location:
 Project Number: 971001 task 45.03
 AES Lab ID: 93214

Sample Description: Layered: 1) Gray semi-hard woven to resilient; 2) Gray soft fibrous with aluminum & glue; 3) Yellow to light brown soft fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	2
Mineral Wool:		Bitumen:	
Fiberglass:	80	Resilient Material:	10
Cellulose:	5	Glue:	<1
Animal Hair:		Binders:	3
Antigorite:			

COMMENTS:

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Microanalyst:

Arkadiy Gendlin

QCAnalyst:

Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: Charleston Naval Complex
 Client Sample ID: 645-13-02
 Location:
 Project Number: 971001 task 45.03
 AES Lab ID: 93215

Sample Description: Layered: 1) Gray semi-hard woven to resilient; 2) Gray soft fibrous with aluminum & glue; 3) Yellow to light brown soft fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	2
Mineral Wool:		Bitumen:	
Fiberglass:	80	Resilient Material:	10
Cellulose:	5	Glue:	<1
Animal Hair:		Binders:	3
Antigorite:			

COMMENTS:

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Microanalyst:
 Arkadiy Gendlin

QCAnalyst:
 Svetlana Arkhipov

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AES Job Number: **B9401**
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BULK SAMPLE ANALYSIS

Client Name: **B A T Associates, Inc.**
 Project Name: **State Dept. Bldg. Charleston Naval Complex** Project Number: **971001 task no. 45.0**
 Client Sample ID: **645-10-01** AES Lab ID: **88149**
 Location:

Sample Description: Layered: 1) Brown semi-hard partly granular to bitumenous; 2) Black semi-hard bitumenous to fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS	
Chrysotile:	
Amosite:	
Crocidolite:	
Anthophyllite:	
Tremolite:	
Actinolite:	

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	
Aggregates:	20
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	
Fiberglass:	
Cellulose:	5
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	70
Resilient Material:	
Glue:	
Binders:	5

COMMENTS:

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst:

Arkadiy Gendlin

QCAAnalyst:

Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: **B A T Associates, Inc.**
 Project Name: **State Dept. Bldg. Charleston Naval Complex** Project Number: **971001 task no. 45.0**
 Client Sample ID: **645-10-02** AES Lab ID: **88150**
 Location:

Sample Description: **Black semi-hard bitumenous with fibers**

All percentages given below are visually estimated by volume

ASBESTOS FIBERS	
Chrysotile:	3
Amosite:	
Crocidolite:	
Anthophyllite:	
Tremolite:	
Actinolite:	

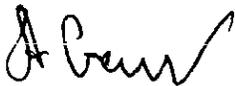
NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	
Fiberglass:	
Cellulose:	3
Animal Hair:	
Antigorite:	

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	
Aggregates:	
Styrofoam:	

OTHERS	
Aluminum:	
Bitumen:	90
Resilient Material:	
Glue:	
Binders:	4

COMMENTS:

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Microanalyst: 
 Arkadiy Gendlin

QCAAnalyst: 
 Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: **B A T Associates, Inc.**
 Project Name: **State Dept. Bldg. Charleston Naval Comple** Project Number: **971001 task no. 45.0**
 Client Sample ID: **645-10-03** AES Lab ID: **88151**
 Location:

Sample Description: Layered: 1) Brown semi-hard partly granular to bitumenous; 2) Black semi-hard bitumenous with fibers.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS

Chrysotile:	
Amosite:	
Crocidolite:	
Anthophyllite:	
Tremolite:	
Actinolite:	

NON-ASBESTOS FIBERS

Synthetics:	
Mineral Wool:	
Fiberglass:	
Cellulose:	5
Animal Hair:	
Antigorite:	

NON-FIBROUS MATERIALS

Vermiculite:	
Biotite:	
Mica:	
Perlite:	
Aggregates:	20
Styrofoam:	

OTHERS

Aluminum:	
Bitumen:	70
Resilient Material:	
Glue:	
Binders:	5

COMMENTS:

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Microanalyst:
 Arkadiy Gendlin

QCAAnalyst:
 Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: State Dept. Bldg. Charleston Naval Comple:Project Number: 971001 task no. 45.0
 Client Sample ID: 645-11-01 AES Lab ID: 88152
 Location:

Sample Description: Layered: 1) Dark grey semi-hard partly granular to bitumenous; 2) Black semi-hard bitumenous to fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS	
Chrysotile:	
Amosite:	
Crocidolite:	
Anthophyllite:	
Tremolite:	
Actinolite:	

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	
Aggregates:	15
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	10
Mineral Wool:	
Fiberglass:	15
Cellulose:	
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	55
Resilient Material:	
Glue:	
Binders:	5

COMMENTS:

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Microanalyst:

Arkadiy Gendlin

QCAnalyst:

Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: State Dept. Bldg. Charleston Naval Comple:Project Number: 971001 task no. 45.0
 Client Sample ID: 645-11-02 AES Lab ID: 88153
 Location:

Sample Description: Layered: 1) Dark grey semi-hard partly granular to bitumenous; 2) Black semi-hard bitumenous to fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	15
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:	10	Aluminum:	
Mineral Wool:		Bitumen:	55
Fiberglass:	15	Resilient Material:	
Cellulose:		Glue:	
Animal Hair:		Binders:	5
Antigorite:			

COMMENTS:

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Microanalyst:

Arkadiy Gendlin

QCAlyst:

Svetlana Arkhipov

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BULK SAMPLE ANALYSIS

Client Name: **B A T Associates, Inc.**
 Project Name: **State Dept. Bldg. Charleston Naval Comple:Project Number: 971001 task no. 45.0**
 Client Sample ID: **645-11-03** AES Lab ID: **88154**
 Location:

Sample Description: Layered: 1) Dark grey semi-hard partly granular to bitumenous; 2) Black semi-hard bitumenous to fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:		Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	15
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:	10	Aluminum:	
Mineral Wool:		Bitumen:	55
Fiberglass:	15	Resilient Material:	
Cellulose:		Glue:	
Animal Hair:		Binders:	5
Antigorite:			

COMMENTS:

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Microanalyst:

Arkadiy Gendlin

QCAlyst:

Svetlana Arkhipov

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AES Job Number: **B9401**
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BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: State Dept. Bldg. Charleston Naval Comple
 Client Sample ID: 645-12-01
 Location:
 Project Number: 371001 task no. 45.0
 AES Lab ID: 88155

Sample Description: Black semi-hard bitumenous with fibers.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:	15	Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	
Mineral Wool:		Bitumen:	80
Fiberglass:		Resilient Material:	
Cellulose:		Glue:	
Animal Hair:		Binders:	5
Antigorite:			

COMMENTS:

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Microanalyst:
 Arkadiy Gendlin

QCAnalyst:
 Svetlana Arkhipov

All percentages given are by volume visually estimated. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full with the approval of Analytical Environmental Services, Inc. These test results apply only to the samples actually tested. The refractive index was determined by using "Rapidly and Accurately Determining Refractive Indices of Asbestos Fibers by Using Dispersion Staining Method" by Shu-Chun Su, Ph.D.



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
 3125 Marjan Drive
 Atlanta, GA 30340
 Tel: (770) 457-8177
 Fax: (770) 457-8188

AES Job Number: **B9401**
 Page 8 of 10 Total Samples
 Wednesday, April 17, 2002



BULK SAMPLE ANALYSIS

Client Name: **B A T Associates, Inc.**
 Project Name: **State Dept. Bldg. Charleston Naval Comple** Project Number: **971001 task no. 45.0**
 Client Sample ID: **645-12-02** AES Lab ID: **88156**
 Location:

Sample Description: **Black semi-hard bitumenous with fibers.**

All percentages given below are visually estimated by volume

ASBESTOS FIBERS	
Chrysotile:	15
Amosite:	
Crocidolite:	
Anthophyllite:	
Tremolite:	
Actinolite:	

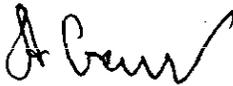
NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	
Fiberglass:	
Cellulose:	
Animal Hair:	
Antigorite:	

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	
Aggregates:	
Styrofoam:	

OTHERS	
Aluminum:	
Bitumen:	80
Resilient Material:	
Glue:	
Binders:	5

COMMENTS:

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst: 
 Arkadiy Gendlin

QCAnalyst: 
 Svetlana Arkhipov

All percentages given are by volume visually estimated. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full with the approval of Analytical Environmental Services, Inc. These test results apply only to the samples actually tested. The refractive index was determined by using "Rapidly and Accurately Determining Refractive Indices of Asbestos Fibers by Using Dispersion Staining Method" by Shu-Chun Su, Ph.D.



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AES Job Number: **B9401**
 Page 9 of 10 Total Samples
 Wednesday, April 17, 2002



BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: State Dept. Bldg. Charleston Naval Comple
 Client Sample ID: 645-12-03
 Location:
 Project Number: 971001 task no. 45.0
 AES Lab ID: 88157

Sample Description: Black semi-hard bitumenous with fibers.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS		NON-FIBROUS MATERIALS	
Chrysotile:	15	Vermiculite:	
Amosite:		Biotite:	
Crocidolite:		Mica:	
Anthophyllite:		Perlite:	
Tremolite:		Aggregates:	
Actinolite:		Styrofoam:	
NON-ASBESTOS FIBERS		OTHERS	
Synthetics:		Aluminum:	
Mineral Wool:		Bitumen:	80
Fiberglass:		Resilient Material:	
Cellulose:		Glue:	
Animal Hair:		Binders:	5
Antigorite:			

COMMENTS:

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst:
 Arkadiy Gendlin

QCAnalyst:
 Svetlana Arkhipov

All percentages given are by volume visually estimated. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full with the approval of Analytical Environmental Services, Inc. These test results apply only to the samples actually tested. The refractive index was determined by using "Rapidly and Accurately Determining Refractive Indices of Asbestos Fibers by Using Dispersion Staining Method" by Shu-Chun Su, Ph.D.



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
 3125 Marjan Drive
 Atlanta, GA 30340
 Tel: (770) 457-8177
 Fax: (770) 457-8188

AES Job Number: B9401
 Page 10 of 10 Total Samples
 Wednesday, April 17, 2002



BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
 Project Name: State Dept. Bldg. Charleston Naval Comple. Project Number: 371001 task no. 45.0
 Client Sample ID: 645-QC-01 AES Lab ID: 88158
 Location:

Sample Description: Layered: 1) Black semi-hard bitumenous; 2) Black semi-hard bitumenous with fibers; 3) Black semi-hard bitumenous to fibrous.

All percentages given below are visually estimated by volume

ASBESTOS FIBERS	
Chrysotile:	<1
Amosite:	
Crocidolite:	
Anthophyllite:	
Tremolite:	
Actinolite:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	
Fiberglass:	25
Cellulose:	
Animal Hair:	
Antigorite:	

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	
Aggregates:	
Styrofoam:	

OTHERS	
Aluminum:	
Bitumen:	70
Resilient Material:	
Glue:	
Binders:	5

COMMENTS: Layer #2 contains 5% chrysotile. Layers #1,3: No asbestos detected.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory 102082-0.

Microanalyst:
 Arkadiy Gendlin

QCAAnalyst:
 Svetlana Arkhipov

All percentages given are by volume visually estimated. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full with the approval of Analytical Environmental Services, Inc. These test results apply only to the samples actually tested. The refractive index was determined by using "Rapidly and Accurately Determining Refractive Indices of Asbestos Fibers by Using Dispersion Staining Method" by Shu-Chun Su, Ph.D.

BAT

BAT Associates, Inc

5151 Brook Hollow Pkwy., Suite 250
Norcross, GA 30071
Phone: (770) 242-3908
Fax (770) 242-3912

CHAIN OF CUSTODY FORM

BAT PROJECT CONTACT: Steven Adams / Douglas J. Milton	
BAT JOB NAME: State Dept Buildings - Charleston Naval Complex, Charleston, SC	BAT JOB NO. 971001 TASK NO. 45.0
ANALYSIS REQUESTED <input checked="" type="checkbox"/> PLM <input type="checkbox"/> PCM <input type="checkbox"/> AAS For Lead Content <input type="checkbox"/> OTHER	
CHECK ONE: <input type="checkbox"/> ROUTINE <input type="checkbox"/> ROUTINE - FAX (HANDWRITTEN) <input checked="" type="checkbox"/> RUSH - FAX (HANDWRITTEN) <i>Next Day</i>	
AS SOON AS POSSIBLE AS SOON AS POSSIBLE	
SAMPLE ID	SAMPLE ID
1. 645-01-01	16.
2. 645-01-02	17.
3. 645-01-03	18.
4. 645-02-01	19.
5. 645-02-02	20.
6. 645-02-03	21.
7. 645-03-01	22.
8. 645-03-02	23.
9. 645-03-03	24.
10. 645-04-01	25.
11. 645-04-02	26.
12. 645-04-03	27.
13.	28.
14.	29.
15.	30.
SPECIAL INSTRUCTIONS:	
1. ACM that is determined to contain less than 1% by PLM shall be verified by PLM point counting.	
2. Stop at first positive	
Relinquished by: <i>Steven C. Adams</i>	Received by: <i>A GW 5/11/02 11:00</i>
Date: 05/07/02 Time:	Date: Time:

9401

BAT
BAT Associates, Inc

5151 Brook Hollow Pkwy., Suite 250
Norcross, GA 30071
Phone: (770) 242-3908
Fax (770) 242-3912

CHAIN OF CUSTODY FORM

BAT PROJECT CONTACT: Steven Adams / Douglas J. Milton

BAT JOB NAME: State Dept Buildings - Charleston Naval Complex, Charleston, SC
BAT JOB NO. 971001 TASK NO. 45.0

ANALYSIS REQUESTED PLM PCM AAS For Lead Content OTHER

CHECK ONE: ROUTINE
 ROUTINE - FAX (HANDWRITTEN) AS SOON AS POSSIBLE
 RUSH - FAX (HANDWRITTEN) AS SOON AS POSSIBLE

SAMPLE ID	SAMPLE ID
1. 645-10-01	16.
2. 645-10-02	17.
3. 645-10-03	18.
4. 645-11-01	19.
5. 645-11-02	20.
6. 645-11-03	21.
7. 645-12-01	22.
8. 645-12-02	23.
9. 645-12-03	24.
10. 645-QC-01	25.
11.	26.
12.	27.
13.	28.
14.	29.
15.	30.

SPECIAL INSTRUCTIONS:
1. ACM that is determined to contain less than 1% by PLM shall be verified by PLM point counting.
3. Stop at first positive

Relinquished by: *Steven Adams* Received by: *Douglas J. Milton*

Date: 4/12/02 Time: Time: 12:27

Date: 5/9/02

AES Project ID: S10143



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
Transmission Electron Microscopy
Semi-Quantitative Analysis Summary Report

Company Name: B A T Associates, Inc.

Project Name:

Attention:

TEM ID	Client Sample ID	Location	SemiQuant Results (in Weight %)*				
			Ch	Am	Cr	Oth	Total
4949	645-04-01	PLMID 91668	NAD	NAD	NAD	NAD	NAD
4950	645-03-01	PLMID 91665	NAD	NAD	NAD	NAD	NAD
4951	645-01-01	PLMID 91659	NAD	NAD	NAD	NAD	NAD

*These results are semi-quantitative results only. Please see the note on the final report for a description of the method.

These test results apply only to those samples actually tested, as submitted by the client. This sample has been analyzed using a JEOL 100SX transmission electron microscope with a Kevex Microanalyser 7500 energy dispersive X-ray spectrometer. It is certified by the signature below that Analytical Environmental Services, Inc. is accredited by the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program, Lab No. 102082-0.

Microanalyst:


 Mortesa Soltani

COPY

BAT Associates, Inc.

5151 Brook Hollow Parkway

Suite 250

Norcross, Georgia 30071

(770) 242-3908 • FAX (770) 242-3912

FACSIMILE TRANSMISSION

TO: MR. Andrew Pittman **DATE:** 5-9-02

COMPANY: AES **TIME:** _____

ADDRESS: _____ **FAX:** 770 451 8188

_____ **PHONE:** _____

FROM: Steve Adams

SUBJECT: TEM Analysis on floor tile **JOB #:** _____
Samples

TOTAL NUMBER OF PAGES (INCLUDING THIS PAGE): 1

MESSAGE: Andrew

The following were (-) for Asbestos using PLM,
please have these samples analyzed using TEM to
confirm asbestos (+) or (-)

<u>Samples:</u>	<u>BAT #</u>	<u>AES #</u>
	<u>645-04-01</u>	<u>91668</u>
	<u>645-03-01</u>	<u>91665</u>
	<u>645-01-01</u>	<u>91659</u>

Thanks
Steve

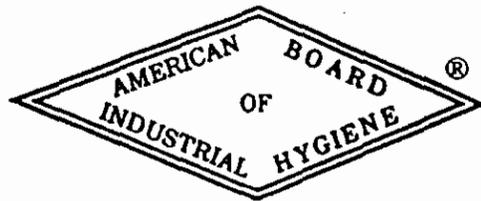
CONFIDENTIALITY NOTE:

The information contained in this facsimile message is legally privileged and confidential information, intended only for the use of the individual or entity named herein. If the reader of this message is not the intended recipient, you are hereby notified that any use, dissemination, distribution, or copy of this telecopy is strictly prohibited. If you have received this telecopy in error, please immediately notify us by telephone and return the original message to us at the above address via the United States Postal Service. Thank you.

APPENDIX E

Personnel and Laboratory Accreditations

The
American Board of Industrial Hygiene®
ABIH®



organized to improve the practice of Industrial Hygiene
proclaims that

Douglas J. Milton

having met all requirements through
education, experience and examination,
is hereby certified in the

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH

November 12, 1997

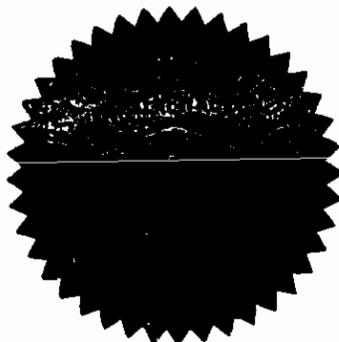
date

J. Kenneth Conner
Chair ABIH

CP 7612

certificate
number

Ray T. Conner
Secretary ABIH



The Environmental Institute

Steve Adams

Social Security Number - 129-42-2965

*Has completed coursework and satisfactorily passed
an examination that meets all criteria required for
EPA/AHERA/ASHARA (TSCA Title II) Approved Reaccreditation
and NESHAP Regulations Training*

***Asbestos in Buildings: Inspector & Management
Planner Refresher***

April 30, 2002

Course Date

7350

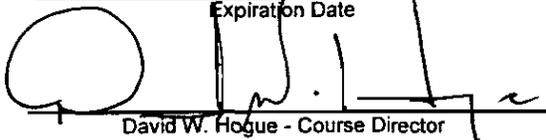
Certificate Number

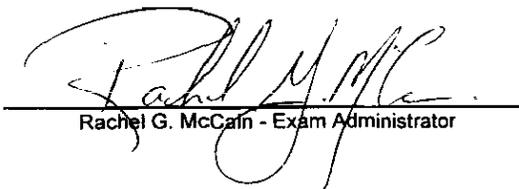
April 30, 2002

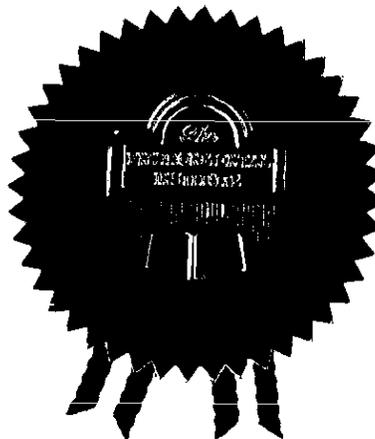
Examination Date

April 29, 2003

Expiration Date


David W. Hogue - Course Director


Rachel G. McCain - Exam Administrator



TEI - 1300 Williams Drive, Suite E - Marietta, Georgia 30066 - (770) 427-3600

The American Industrial Hygiene Association

is proud to acknowledge that

Analytical Environmental Services, Inc.

Atlanta, GA

has fulfilled the requirements for and has been formally recognized by AIHA
and is technically competent to perform the analyses listed in the following

SCOPE OF ACCREDITATION

INDUSTRIAL HYGIENE
Originally Accredited: 03/01/84

Metals Silica
 Asbestos PCM Asbestos PLM
 Organic Solvents Diffusive Samples

ENVIRONMENTAL LEAD
Originally Accredited: 01/01/95

Paint Chips Air
 Dust Wipes Soil

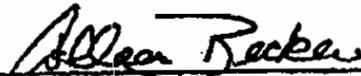
ENVIRONMENTAL MICROBIOLOGY

Bacteria
 Fungi

The above named laboratory agrees to perform all analyses listed above in the scope of accreditation according to applicable policy requirements and acknowledges that continued accreditation is dependent on successful participation in the appropriate proficiency testing programs. This laboratory may be contacted to verify the current scope of accreditation, proficiency testing performance and accreditation status. Accreditation by AIHA is not a guarantee of the validity of the data generated by the laboratory.

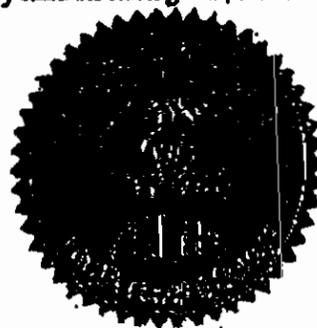
Laboratory # 100671
Certificate # 505

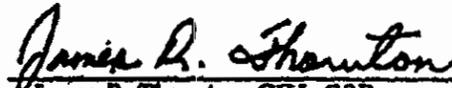
Accreditation Expires: 03/01/03



Colleen Becker

Chair, Analytical Accreditation Board





James R. Thornton, CIH, CSP

President, AIHA

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation



Page: 1 of 1

BULK ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 102082-0

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

3125 Maqan Drive

Atlanta, GA 30340

Mr. Mehmet Yildirim

Phone: 800-972-4889 Fax: 770-457-8188

NVLAP Code

Designation

102082-0

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

September 30, 2001

Effective through

David F. Alderman

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

NVLAP[®]

ISO/IEC GUIDE 25:1980
ISO 9002:1987

Certificate of Accreditation



ANALYTICAL ENVIRONMENTAL SERVICES, INC.
ATLANTA, GA

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

September 30, 2001

Effective through

David E. Alderman

For the National Institute of Standards and Technology

NVLAP Lab Code: 102082-0