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ASBESTOS-CONTAINING MATERIAL AND LEAD-BASED PAINT PRE-DEMOLITION SURVEY FOR BUILDING 109 CNC CHARLESTON SC

5/13/2001

BAT ASSOCIATES, INC.

Asbestos-Containing Material and Lead-Based Paint Pre-Demolition Survey for Building 109 Charleston Air Force Base Charleston, South Carolina

Contract No. N62467-96-D-0998
Delivery Order No. ~~0020~~ 0017

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

May 13, 2001

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TABLE OF CONTENTS

Appendices

List of Tables and Figures

1.0 EXECUTIVE SUMMARY

BAT Associates, Inc. (BAT) was retained by the U.S. Department of the Navy, Southern Division (South Div), Naval Facilities Engineering Command (NAVFACENGCOM) to perform an asbestos-containing material (ACM) and lead-based paint (LBP) pre-demolition survey of Building 109 located at the Charleston Air Force Base in Charleston, South Carolina.

1.1 Asbestos-Containing Material Summary

After a comprehensive site investigation, bulk sample collection, and laboratory analysis no ACM was identified in this building.

1.2 Lead-Based Paint Summary

After a comprehensive site investigation of all painted surfaces and suspect lead-containing components (LCC), no LBP/LCC was identified in this building.

2.0 BUILDING INSPECTION INFORMATION

Building Name:	C-17 Fight Simulator Addition
Building Number:	109
Facility:	Charleston Air Force Base-Beaufort
Building Square Footage:	4,800
Year Built:	1995
Building Type:	Offices
No. of Floors in Building:	2
Purpose of ACM Survey:	Pre-Demolition
Facility Unit Identification Code (UIC):	N/A

Building Contact:	Mr. Bruce Jackson
Contact's Telephone No.:	(843) 228-7643
Building Survey Date(s):	4/20/01

Asbestos/Lead Inspector's Name:	Mr. Foshie Bell Mr. Damascus Rutledge
Asbestos/Lead Inspector's Accreditation No:	GA 3453/GA 1294 respectively
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-demolition survey of Building 109 located at the Charleston Air Force Base in Charleston, South Carolina. 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 ACM laboratory analysis results. Appendix C contains personnel and laboratory accreditation.

4.0 ASBESTOS

The ACM inspection was performed in accordance with the Navy's Asbestos Facility Inventory/Assessment Protocol (NEESA 70.2-010), 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. Foshie Bell and Mr. Damascus Rutledge on April 20, 2001 under the direction of Mr. Douglas J. Milton, CIH. Mr. Bell is an accredited asbestos and lead building inspector. Mr. Rutledge is an accredited 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-though 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 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*

   One sample minimum

7. *Miscellaneous Friable Material*

   One sample minimum

8. *Non-friable Material*

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

   Minimum of 3 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 eyewear.

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 login 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 by a different laboratory, Cape Environmental Management Inc. (CAPE). The CAPE Asbestos Laboratory also participates in the National Voluntary Laboratory Assurance Program (NVLAP) for the analysis of asbestos content in suspect materials. CAPE's NVLAP Laboratory Code is 102111-0.

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 six homogeneous areas (materials) were identified during the survey. Table 1.0 describes the suspect ACM identified in and around Building 109.

Table 1.0,
List of Identified Suspect ACM

HA No.	Description of Suspect ACM	Location of Suspect ACM	AHERA Category of Material
01	Ceiling Tile, 2' x 2' suspended fissure	Throughout building on both floors except crew storage, stairwell, and where HA05 is located	N/A
02	Drywall, on walls	All interior walls on both floors	N/A
02A	Joint Sealer Compound and Tape, on drywall	All interior walls on both floors	N/A
03	Floor Tile, 12" x 12" beige with brown adhesive	1st floor: supply storage area, manual overhead door area, corridor, communications shop, radio room, men's and women's restrooms; 2nd floor: men's and women's restrooms	N/A
04	Putty, black on door trim	Stairwell side of 1st floor stairwell door	N/A
05	Ceiling Tile, 2' x 2' suspended fissure/pinhole	2nd floor stairwell deck before entering office area	N/A

4.3 Summary of Asbestos Sample Analysis Results

None of the homogeneous areas (materials) were found to contain asbestos. Table 2.0 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 2.0,
Summary of Suspect ACM Sample Analysis Results

HA No.	Sample ID Nos.	Suspect Material Description	Asbestos Content	Friability
01	BAT109-01-01 BAT109-01-02 BAT109-01-03	Ceiling Tile, 2' x 2' suspended fissure	NAD	N/A
02	BAT109-02-01 BAT109-02-02 BAT109-02-03	Drywall, on walls	NAD	N/A
02A	BAT109-02A-01 BAT109-02A-02 BAT109-02A-03	Joint Sealer Compound and Tape, on drywall	NAD	N/A
03	BAT109-03-01 BAT109-03-02 BAT109-03-03	Floor Tile, 12" x 12" beige with brown adhesive	Tile: NAD, Adhesive: NAD	N/A
04	BAT109-04-01 BAT109-04-02 BAT109-04-03	Putty, black on door trim	NAD	N/A
05	BAT109-05-01 BAT109-05-02 BAT109-05-03	Ceiling Tile, 2' x 2' suspended fissure/pinhole	NAD	N/A

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

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 intent was not to mimic analytical results between laboratories, but to ensure like identification for the presence or absence of asbestos and a quantifiable range. The comparison sample results can be found in Table 3.0.

Table 3.0,
Validation of Asbestos QC Sample Results

Sample ID No.	QC Laboratory Analysis Results	Primary Laboratory Analysis Results
BAT109-02A-QC	NAD	NAD
BAT109-03-QC	NAD	NAD

Note: NAD = No Asbestos Detected

No analysis discrepancies were noted from quality control/primary analyses.

5.0 LEAD-BASED PAINT AND LEAD-CONTAINING MATERIALS

The lead-based paint (LBP) and lead-containing component (LCC) 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. Damascus Rutledge. Mr. Rutledge performed the field investigation and testing on April 20, 2001 in accordance with 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/cm^2. BAT also inspected the building for suspect lead-containing components (LCC) which are currently not defined by EPA or HUD, however, their guideline of 1.0 mg/cm^2 was used.

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 Reading tests at the beginning of the testing day, re-calibration 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) standards containing known concentrations of lead ranging from 0.0 mg/cm^2 through 5.0 mg/cm^2. Calibration testing results are identified in Table 4.0. No discrepancies in calibration were noted.

Table 4.0,
XRF Calibration Test Results

Date	Time	Type of Calibration	Standard Concentration (mg/cm^2)	Calibration Results (mg/cm^2)
04/20/01	1619	Initial Reading	1.00	0.90
04/20/01	1620	Initial Reading	0.00	0.00
04/20/01	1621	Initial Reading	0.30	0.28
04/20/01	1622	Initial Reading	2.00	1.50
04/20/01	1623	Initial Reading	3.50	3.20
04/20/01	1709	End of Day	1.00	1.00
04/20/01	1710	End of Day	0.00	0.00
04/20/01	1711	End of Day	0.30	0.35
04/20/01	1712	End of Day	2.00	1.50

Date	Time	Type of Calibration	Standard Concentration (mg/cm^2)	Calibration Results (mg/cm^2)
04/20/01	1713	End of Day	3.50	3.10

BAT developed an XRF sampling scheme that would provide representative 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 painted surface or suspect building component once per room or room equivalent. This would ensure that the minimum number tests of each component were achieved.

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/cm^2. A *negative classification* indicated that the building component contained a lead concentration less than 1.0 mg/cm^2. **NOTE: A negative classification does not mean the building component is lead-free.**

Thirty-one painted surfaces and suspect building components were identified as suspect LBP or LCC during the field investigation. The materials were individualized based of their component substrates (e.g. wood, plaster, metal, etc.) and/or application to differing systems (e.g. walls, doors). Table 5.0 summarizes the suspect LBP/LCC identified in Building 109 and of the XRF analysis results. No paints/components were identified as LBP/LCC (i.e., equal to or exceeding a lead content of 1.0 mg/cm^2); using the portable lead analyzer.

Table 5.0,
List of Suspect LBP/LCC

Room	Material Description	Material Location	Average XRF Results (mg/cm^2)
Mechanical room	Beige, on drywall wall	Wall D	0.01
Mechanical room	Brown, on metal door	Wall B	0.01
Mechanical room	Brown, on metal door casing	Wall B	0.01
Mechanical room	Brown, on metal support beam	Wall B	0.00
Mechanical room	Brown, on metal water heater	Wall B	0.01
Mechanical room	Gray, on electrical panel	Wall B	0.01
Training Area	Varnish, on wood door	Wall B	0.00
Men's restroom	White, porcelain sink	Sink	0.00
Men's restroom	White, porcelain toilet	Toilet	0.00
Men's restroom	White, porcelain urinal	Urinal	0.00
Men's restroom	Brown, on ceramic wall tile	Wall B	0.20

Room	Material Description	Material Location	Average XRF Results (mg/cm^2)
Men's restroom	Brown, on metal door casing	Wall B	0.01
Men's restroom	Beige, on drywall wall	Wall A	0.00
Men's restroom	Brown, on ceramic floor tile	Shower	0.01
Training Area	Brown, on metal support beam	Wall A	0.02
Stairwell	White, on metal door	Wall B	0.01
Stairwell	Beige, on concrete wall	Wall A	0.00
Stairwell	Black, on metal rails	Stairs	0.02
Stairwell	Gray, on concrete floor	Floor	0.00
2nd floor restroom	White, porcelain sink	Sink	0.50
2nd floor restroom	White, porcelain toilet	Toilet	0.00
Classified storage	Beige, on drywall	Wall B	0.00
2nd floor corridor	Brown, on metal door	Wall D	0.01
2nd floor corridor	Brown, on metal door casing	Wall D	0.10
Building exterior	Brown, on metal stair rail	Stairs	0.01
Building exterior	Brown, on metal door	Wall A	0.04
Building exterior	Brown, on metal door casing	Wall A	0.01
Building exterior	Beige, on concrete wall	Wall A	0.01
Mechanical room	Red, on metal fire hydrant	By door	0.02

Note: BAT followed the EPA/HUD Guidelines in the designation of the walls, "Wall A" would be to the left of the doorway through which the inspector enters a room; "Wall B" is the wall opposite the door; "Wall C" is to the right of the door; and "Wall D" is the wall containing the door.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Asbestos-Containing Materials

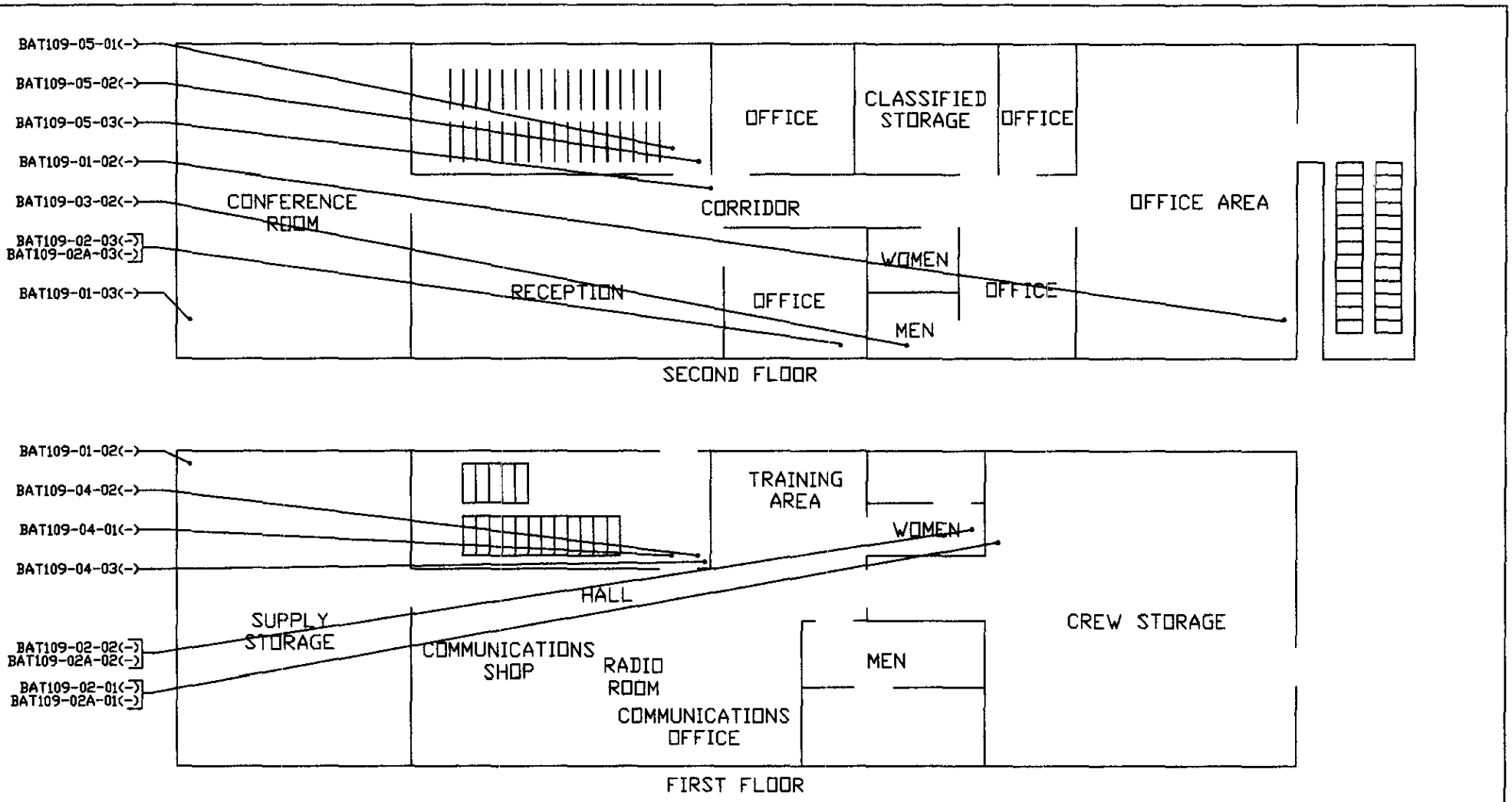
Physical inspection of Building 109 and confirmatory laboratory analysis of the bulk samples indicated that no asbestos was detected in the suspect ACM samples submitted for PLM analysis.

6.2 Lead-Based Paints

Physical inspection of Building 109 and confirmatory XRF testing indicated that none of the painted surfaces or suspect building components contained regulated concentrations of lead.

APPENDIX A

ACM Sample Drawings



BUILDING 109

Asbestos-Containing Material and Sample Locations

LEGEND

- • SAMPLE LOCATION
- (-) NON-ASBESTOS CONTAINING SAMPLE LOCATION

N

0 5' 10'

BAT Associates, Inc.

APPENDIX B

ACM Laboratory Analysis Results

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

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-01-02
AES Lab ID: 49547
Location:

Sample Description: Gray soft fibrous to perlite with paint.

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	30
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	25
Fiberglass:	
Cellulose:	35
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	10

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

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

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-01-03
AES Lab ID: 49548
Location:

Sample Description: Gray soft fibrous to perlite with paint.

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	30
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	25
Fiberglass:	
Cellulose:	35
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	10

COMMENTS: Paint included as binder.

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Microanalyst: Arkadiy Gendlin

QCAnalyst: Svetlana Arkhipov

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3125 Marjan Drive
Atlanta, GA 30340
Tel: (770) 457-8177
Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-02-01
AES Lab ID: 49549
Location:

Sample Description: Light gray semi-hard silty with fibers.

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:	
Styrofoam:	

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

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	97

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

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3125 Marjan Drive
Atlanta, GA 30340
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Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-02-02
AES Lab ID: 49550
Location:

Sample Description: Light gray semi-hard silty with fibers.

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:	
Styrofoam:	

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

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	97

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

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3125 Marjan Drive
Atlanta, GA 30340
Tel: (770) 457-8177
Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB — Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-02-03 — AES Lab ID: 49551
Location:

Sample Description: Light gray semi-hard silty with fibers.

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:	
Styrofoam:	

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

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	97

COMMENTS:

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Atlanta, GA 30340
Tel: (770) 457-8177
Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-03-01
AES Lab ID: 49552
Location:

Sample Description: Beige hard compact partly granular with fibers and glue.

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:	45
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	1
Mineral Wool:	
Fiberglass:	
Cellulose:	1
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	<1
Binders:	53

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

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3125 Marjan Drive
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Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-03-02
AES Lab ID: 49553
Location:

Sample Description: Beige hard compact partly granular with fibers and glue.

All percentages given below are visually estimated by volume

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

NON-ASBESTOS FIBERS	
Synthetics:	1
Mineral Wool:	
Fiberglass:	
Cellulose:	1
Animal Hair:	
Antigorite:	

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	
Aggregates:	45
Styrofoam:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	<1
Binders:	53

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

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NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-03-03
AES Lab ID: 49554
Location:

Sample Description: Beige hard compact partly granular with fibers and glue.

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:	45
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	1
Mineral Wool:	
Fiberglass:	
Cellulose:	1
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	<1
Binders:	53

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

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Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-02A-01
AES Lab ID: 49555
Location:

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

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	<1
Perlite:	
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	
Fiberglass:	
Cellulose:	65
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	35

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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NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-02A-02
AES Lab ID: 49556
Location:

Sample Description: Layered: 1) Light gray semi-hard silty with fibers, mica and paint; 2) Light brown soft fibrous; 3) Gray semi-hard silty with fibers.

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	<1
Perlite:	
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	
Fiberglass:	
Cellulose:	50
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	50

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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3125 Marjan Drive
Atlanta, GA 30340
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Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB — Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-02A-03 — AES Lab ID: 49557
Location:

Sample Description: Layered: 1) Light gray semi-hard silty with fibers, mica and paint; 2) Light brown soft fibrous; 3) Gray semi-hard silty with fibers.

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	<1
Perlite:	
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	
Fiberglass:	
Cellulose:	50
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	50

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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NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-04-01
AES Lab ID: 49558
Location:

Sample Description: Dark gray semi-hard mastic with fibers.

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:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	1
Mineral Wool:	
Fiberglass:	
Cellulose:	3
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	90
Binders:	6

COMMENTS: Wollastonite 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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Atlanta, GA 30340
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NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-04-02
AES Lab ID: 49559
Location:

Sample Description: Dark gray semi-hard mastic with fibers.

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:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	1
Mineral Wool:	
Fiberglass:	
Cellulose:	3
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	90
Binders:	6

COMMENTS: Wollastonite 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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3125 Marjan Drive
Atlanta, GA 30340
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NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-04-03
AES Lab ID: 49560
Location:

Sample Description: Dark gray semi-hard mastic with fibers.

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:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	1
Mineral Wool:	
Fiberglass:	
Cellulose:	3
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	90
Binders:	6

COMMENTS: Wollastonite 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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NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-05-01
AES Lab ID: 49561
Location:

Sample Description: Gray soft fibrous to perlite with paint.

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	30
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	25
Fiberglass:	
Cellulose:	35
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	10

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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NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-05-02
AES Lab ID: 49562
Location:

Sample Description: Gray soft fibrous to perlite with paint.

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	30
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	25
Fiberglass:	
Cellulose:	35
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	10

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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Atlanta, GA 30340
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Fax: (770) 457-8188

NVLAP Lab # 102082-0

BULK SAMPLE ANALYSIS

Client Name: B A T Associates, Inc.
Project Name: N-Charleston AFB
Project Number: 971001,Task #18.03
Client Sample ID: BAT 109-05-03
AES Lab ID: 49563
Location:

Sample Description: Gray soft fibrous to perlite with paint.

All percentages given below are visually estimated by volume

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

NON-FIBROUS MATERIALS	
Vermiculite:	
Biotite:	
Mica:	
Perlite:	30
Aggregates:	
Styrofoam:	

NON-ASBESTOS FIBERS	
Synthetics:	
Mineral Wool:	25
Fiberglass:	
Cellulose:	35
Animal Hair:	
Antigorite:	

OTHERS	
Aluminum:	
Bitumen:	
Resilient Material:	
Glue:	
Binders:	10

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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5452 (HEO)

BAT

BAT Associates, Inc.
ENGINEERS • SCIENTISTS • PLANNERS

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

CHAIN OF CUSTODY FORM

BAT PROJECT CONTACT: Mr. Foshie Bell / Mr. Damascus Rutledge

BAT JOB NAME: N-Charleston AFB | BAT JOB NO. 971001 | TASK NO. ~~10~~ 18.03

ANALYSIS REQUESTED: [X] PLM [ ] PCM [ ] AAS For Lead Content [ ] OTHER_____

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

SAMPLE ID	SAMPLE ID
1. BAT109-01-01	16. BAT109-05-01
2. BAT109-01-02	17. BAT109-05-02
3. BAT109-01-03	18. BAT109-05-03
4. BAT109-02-01	19.
5. BAT109-02-02	20.
6. BAT109-02-03	21.
7. BAT109-03-01	22.
8. BAT109-03-02	23.
9. BAT109-03-03	24.
10. BAT109-02A-01	25.
11. BAT109-02A-02	26.
12. BAT109-02A-03	27.
13. BAT109-04-01	28.
14. BAT109-04-02	29.
15. BAT109-04-03	30.

SPECIAL INSTRUCTIONS:

Relinquished by: Foshie Bell	Received by: [signature]
Date: 4/21/01 Time: 0500	Date: 4/23/01 Time: 8:30am

ENVIRONMENTAL MANAGEMENT I N C

2302 PARKLAKE DRIVE, SUITE 200, ATLANTA, GA 30345
TEL: (770) 908-7200 FAX: (770) 908-7219

NVLAP ®
ACCREDITED
LAB CODE - 102111

POLARIZED LIGHT MICROSCOPY (PLM)
BULK SAMPLE ANALYSIS REPORT

CLIENT NAME:	BAT ASSOCIATES	LAB JOB NO:	B1076
PROJECT NAME:	VAR. NAVY	DATE RECEIVED:	4/23/01
PROJECT NO:	00003.000.000	REPORT ISSUED:	4/27/01
SAMPLE FIELD ID:	**BAT109-02A-QC**	LAB ID:	103522
SAMPLE INFO:	N. CHARLESTON / 971001-18.03	DATE ANALYZED:	4/25/01

SAMPLE DESCRIPTION

LAYERED: YES	LAYER NO: **1+2**	NO. OF LAYERS: **2**
APPEARANCE: 1. WHITE HARD SILTY WITH MICA (J/C); 2. GRAY SOFT FIBROUS		

RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)

ASBESTOS FIBERS		NONASBESTOS FIBERS		NONFIBROUS COMPONENTS		OTHER COMPONENTS	
CHRYSOTILE		CELLULOSE	60	VERMICULITE/MICA	5	BITUMEN/TAR	
AMOSITE		GLASS FIBERS		PERLITE		SAND/AGGR.	
CROCIDOLITE		SYNTHETICS		EXPANDED GLASS		GLUE/CAULK	
TREMOLITE		WOLLASTONITE		SYNTHETIC FOAM		VINYL/LATEX	
ACTINOLITE		TALC		ALUMINUM/METAL		CORK	
ANTHOPHYLLITE				FOAM RUBBER		PAINT/OTHER	35

COMMENTS:

SAMPLE WAS ANALYZED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 4/25/01
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER IS ANALYZED SEPARATELY.
REPORT 1 OF 1

ANALYST

ALEKSEY REZNIK

QUALITY CONTROL

STEVE JARVIS

ENVIRONMENTAL MANAGEMENT I N C

2302 PARKLAKE DRIVE, SUITE 200, ATLANTA, GA 30345
TEL: (770) 908-7200 FAX: (770) 908-7219

NVLAP ®
ACCREDITED
LAB CODE - 102111

POLARIZED LIGHT MICROSCOPY (PLM)
BULK SAMPLE ANALYSIS REPORT

CLIENT NAME:	BAT ASSOCIATES	LAB JOB NO:	B1076
PROJECT NAME:	VAR. NAVY	DATE RECEIVED:	4/23/01
PROJECT NO:	00003.000.000	REPORT ISSUED:	4/27/01
SAMPLE FIELD ID:	**BAT109-03-QC**	LAB ID:	103523
SAMPLE INFO:	N. CHARLESTON / 971001-18.03	DATE ANALYZED:	4/25/01

SAMPLE DESCRIPTION

LAYERED: YES	LAYER NO: **1+2**	NO. OF LAYERS: **2**
APPEARANCE: 1. CREAM HARD RESILIENT TO GRANULAR (FT); 2. YELLOW RESILIENT MASTIC		

RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)

ASBESTOS FIBERS		NONASBESTOS FIBERS		NONFIBROUS COMPONENTS		OTHER COMPONENTS	
CHRYSOTILE		CELLULOSE		VERMICULITE/MICA		BITUMEN/TAR	
AMOSITE		GLASS FIBERS		PERLITE		SAND/AGGR.	30
CROCIDOLITE		SYNTHETICS		EXPANDED GLASS		GLUE/CAULK	5
TREMOLITE		WOLLASTONITE		SYNTHETIC FOAM		VINYL/LATEX	
ACTINOLITE		TALC		ALUMINUM/METAL		CORK	
ANTHOPHYLLITE				FOAM RUBBER		PAINT/OTHER	65

COMMENTS:

SAMPLE WAS ANALYZED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 4/25/01
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER IS ANALYZED SEPARATELY.
REPORT 1 OF 1

ANALYST

ALEKSEY REZNIK

QUALITY CONTROL

STEVE JARVIS

QC samples

BAT
BAT Associates, Inc.
ENGINEERS • SCIENTISTS • PLANNERS

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

CHAIN OF CUSTODY FORM

BAT PROJECT CONTACT	Mr. Fosnie Bell / Mr. Damascus Rutledge	
BAT JOB NAME N Charleston	BAT JOB NO. 971001	TASK NO. 18.03
ANALYSIS REQUESTED	[X] PLM ☐ PCM ☐ AAS For Lead Content ☐ OTHER _____	
CHECK ONE: [X] ROUTINE ☐ ROUTINE - FAX (HANDWRITTEN) AS SOON AS POSSIBLE ☐ RUSH - FAX (HANDWRITTEN) AS SOON AS POSSIBLE		

SAMPLE ID	SAMPLE ID
1. BAT109-02A-QC	16.
2. BAT109-03-QC	17.
3.	18.
4.	19.
5.	20.
6.	21.
7.	22.
8.	23.
9.	24.
10.	25.
11.	26.
12.	27.
13.	28.
14.	29.
15.	30.

SPECIAL INSTRUCTIONS:	
Relinquished by: Fosnie Bell	Received by:
Date: 4/23/01 Time: 1046	Date: 4/23/01 Time: 10:46

APPENDIX C

Personnel and Laboratory Accreditations

The

American Board of Industrial Hygiene®

ABIH®

organized to improve the practice of Industrial Hygiene
proclaims that

Douglas J. Milton

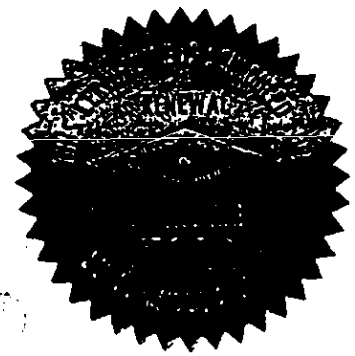
having met all requirements through
education, experience and examination,
is hereby certified in the

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH



November 12, 1997
date

J. Kenneth Crowe
Chair ABIH

CP 7612
certificate
number

Secretary ABIH

Georgia Institute of Technology

This is to certify that

Foshie Bell

has attended an EPA-approved half-day Continuing Education Course entitled:

Inspecting Buildings for Asbestos Containing Materials
(Annual Refresher Course for Building Inspectors)

as required by the Federal EPA AHERA Model Accreditation Plan for re-accreditation as a Building Inspector for Asbestos (TSCA Title II).

November 16, 2000
Date of Attendance

November 16, 2001
Expiration Date

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

149-64-0385
Social Security Number

Robert D. Schmitter
Course Director

3453
Certificate Number

Georgia Institute of Technology

This is to certify that

Foshie Bell

5151 Brook Hollow Pkwy
Norcross, GA 30071
149-64-0385

has attended and satisfactorily passed a skills assessment and examination (given in English and held in St. Simons Island, Georgia) covering the contents of a Continuing Education Course entitled:

Inspecting for Lead-Based Paint: An Update

June 22, 2000
Date of Attendance

June 22, 2000
Examination Date

June 22, 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

Vicki H. Ainslie
Vicki Hanrahan Ainslie
Course Director

243
Certificate Number

* EPA regulations mandate an *interim expiration* date which is December 22, 2000 .

The Environmental Institute

Damascus Rutledge

Social Security Number - 257-23-5192
5151 Brookhollow Parkway - Norcross, Georgia 30071

Has completed coursework and satisfactorily passed the hands-on skills assessment and an examination that meets training criteria in accordance with requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities as regulated by Georgia DNR/EPD Chapter 391-3-24 and U. S. EPA TSCA 40 CFR Part 745 for the initial course titled

Lead Inspector: EPA
(Target Housing & Child-Occupied Facilities)

July 17-19, 2000
Course Date

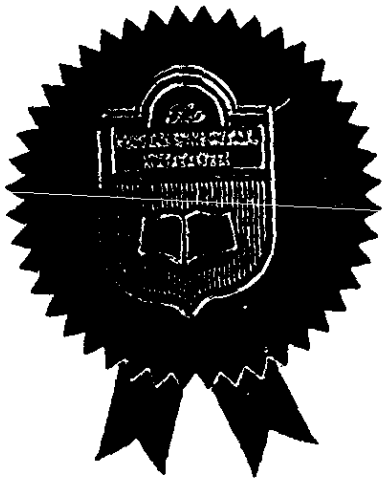
1294
Certificate Number

July 19, 2000
Examination Date

July 18, 2003
Expiration Date

Dan D. Troutman - Course Director

David W. Hogue - Training Manager



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

(State of Georgia Accredited - Certification No. 20-0799-006I - January 15, 1997)

National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation

BULK ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 102082-0**

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3125 Marjan Drive
Atlanta, GA 30340
Mr. Mehmet Yildirim
Phone: 800-972-4889 Fax: 770-457-8188

NVLAP Code	*Designation*
18/A01	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 25:1990
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 F. Alderman
For the National Institute of Standards and Technology

NVLAP Lab Code: 102082-0

NVLAP-01C (11-95)

National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation

BULK ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 102111-0**

CAPE ENVIRONMENTAL MANAGEMENT, INC.
2302 Parkdale Drive, Suite 200
Atlanta, GA 30345-2907
Mr. Aleksey Reznik
Phone: 770-908-7200 Fax: 770-908-7219

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

June 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 25:1990
ISO 9002:1987

Certificate of Accreditation

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

CAPE ENVIRONMENTAL MANAGEMENT, 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

June 30, 2001
Effective through

David F. Alderman
For the National Institute of Standards and Technology

NVLAP Lab Code: 102111-0

VLAP-01C (11-95)