N61165.AR.004114
CNC CHARLESTON
5090.3a

ASBESTOS CONTAINING MATERIAL RE-INSPECTION BUILDING 1001 VOLUME 15 CNC CHARLESTON SC

1/15/2000

BAT ASSOCIATES, INC.

Volume 15

Asbestos-Containing Material Re-inspection For Building 1001 Charleston Naval Shipyard Charleston, South Carolina

Contract No. N2467-96-D-0998
Delivery Order No. 0013

Prepared for:

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

Prepared by:

BAT Associates, Inc.
541 Brook Hollow Parkway
Suite 250
Norcross, Georgia 30071
(770) 242-3908

January 15, 2000

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 (SouthDiv), Naval Facilities Engineering Command (NAVFACENGCOM) to perform an asbestos-containing material (ACM) re-inspection of Building 1001 located at the Charleston Naval Shipyard in Charleston, South Carolina.

No asbestos-containing materials were identified in this building.

2.0 BUILDING INSPECTION INFORMATION FORM

Building Name:	Storage Shed
Building Number:	1001
Facility:	Charleston Naval Shipyard
Building Area (square footage):	1,500
Year Built:	1972
Building Type:	Storage
No. of Floors in Building:	One
Purpose of ACM Survey:	Re-Inspection
Facility Unit Identification Code (UIC):	N/A

Building Contact:	Mr. William A. Drawdy
Contact's Telephone No.:	(843) 743-9985
Building Survey Date(s):	November 17, 1999

Asbestos Inspector's Name:	Mr. Jason McGlashan
Asbestos Inspector's Accreditation No:	GA2594
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 of all buildings located at the Charleston Naval Shipyard in Charleston, South Carolina. The purpose of this re-inspection was to:

1. Perform a comprehensive ACM re-inspection of 34 buildings in accordance with Federal and U.S. Navy requirements;
2. Assess the condition of previously identified friable and non-friable ACM; and
3. Provide a preliminary cost estimate for the removal of identified ACM.

The re-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) Asbestos Hazard Emergency Response Act (AHERA) and the Asbestos School Hazard Abatement Reauthorization Act (ASHARA).

The results of the re-inspection survey are presented in 23 separate volume reports. This report describes the results for Building 1001.

This re-inspection survey was performed by Mr. Jason McGlashan, under the direct supervision of Mr. Douglas J. Milton, CIH, on November 17, 1999. Mr. McGlashan is an accredited asbestos building inspector. Mr. Milton, a Certified Industrial Hygienist, is an accredited asbestos inspector, management planner, and project designer.

This report discusses the sampling methodology used during the re-inspection and assessment (Section 4.0); a list of all identified suspect materials (Section 5.0); a summary of the bulk sample analysis results (Section 6.0); results of quality control sampling; (Section 7.0); physical assessments of the identified ACM (Section 8.0); a hazard assessment of the identified ACM (Section 9.0); and conclusions (Section 10.0). Appendix A contains drawings identifying the locations of collected bulk samples. Appendix B contains laboratory analysis results. Appendix C contains personnel and laboratory accreditations.

The assessment protocol for ACM involved three distinct steps:

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 according to the EPA National Emission Standards for

Hazardous Air Pollutants (NESHAP) 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 4.0, *Sampling Methodology*, for details).

4.0 SAMPLE METHODOLOGY

Representative, randomly selected bulk samples were collected in accordance with the Navy's and AHERA sampling protocol, as described in 40 CFR 763.86, and in accordance with BAT's contract requirements.

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 (S.F.) = 3 samples
   b. Greater than 1,000 S.F and less than or equal to 5,000 S.F. = 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 S.F.
   b. Pipe and duct insulation patches are limited to a maximum of 6 Linear Feet (L.F.) or 6 S.F.
   c. Boiler, tank, and furnace patches are limited to 6 S.F.

   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*

   3 samples

7. *Miscellaneous Friable Material*

   3 samples

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 is 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 being 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, 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 which was then sealed and labeled with a unique identification number which was also recorded on the 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.

5.0 ASBESTOS INVENTORY AND ASSESSMENT

Table 1.0 describes the suspect ACM identified in and around Building 1001.

Table 1.0
Summary of Identified Suspect ACM

HA No.	Description of Suspect ACM	Location of Suspect ACM	AHERA Category of Material
1	Floor Tile, 12" x 12" yellow with brown streaks w/ black mastic	Northwest corner office	N/A

Notes: N/A = Not Applicable

6.0 SUMMARY OF SAMPLE ANALYSIS RESULTS

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 Polarized Light Microscopy (PLM) analysis before the material can be categorized as non-asbestos-containing. If one sample is determined as asbestos-containing using PLM analysis, the entire homogeneous area must be classified asbestos-containing.

Table 2.0
Summary of Sample Analysis Results

HA No.	Sample ID No.	Suspect Material Description	Asbestos Content	Friability
1	1001-1-1, 1001-102, 1001-103	Floor Tile, 12" x 12" yellow with brown streaks w/ black mastic	NAD	N/A

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

7.0 RESULTS OF QUALITY CONTROL SAMPLING

The purpose of quality control (QC) sampling was to ensure reproducibility of the primary laboratory analysis results. Duplicate samples were collected for ten percent of the total building samples for QC purposes.

Table 3.0
Validation of Quality Control Sampling

No quality control samples were collected for this building.

8.0 PHYSICAL ASSESSMENT OF IDENTIFIED ACM

No physical assessments are required since no asbestos-containing materials were identified in this building.

9.0 HAZARD ASSESSMENT OF IDENTIFIED ACM

No hazard assessments are required since no asbestos-containing materials were identified in this building.

10.0 CONCLUSIONS

Inspection of Building 1001 and confirmatory laboratory bulk sample analysis of selected samples identified the following materials with asbestos concentrations greater than one percent.

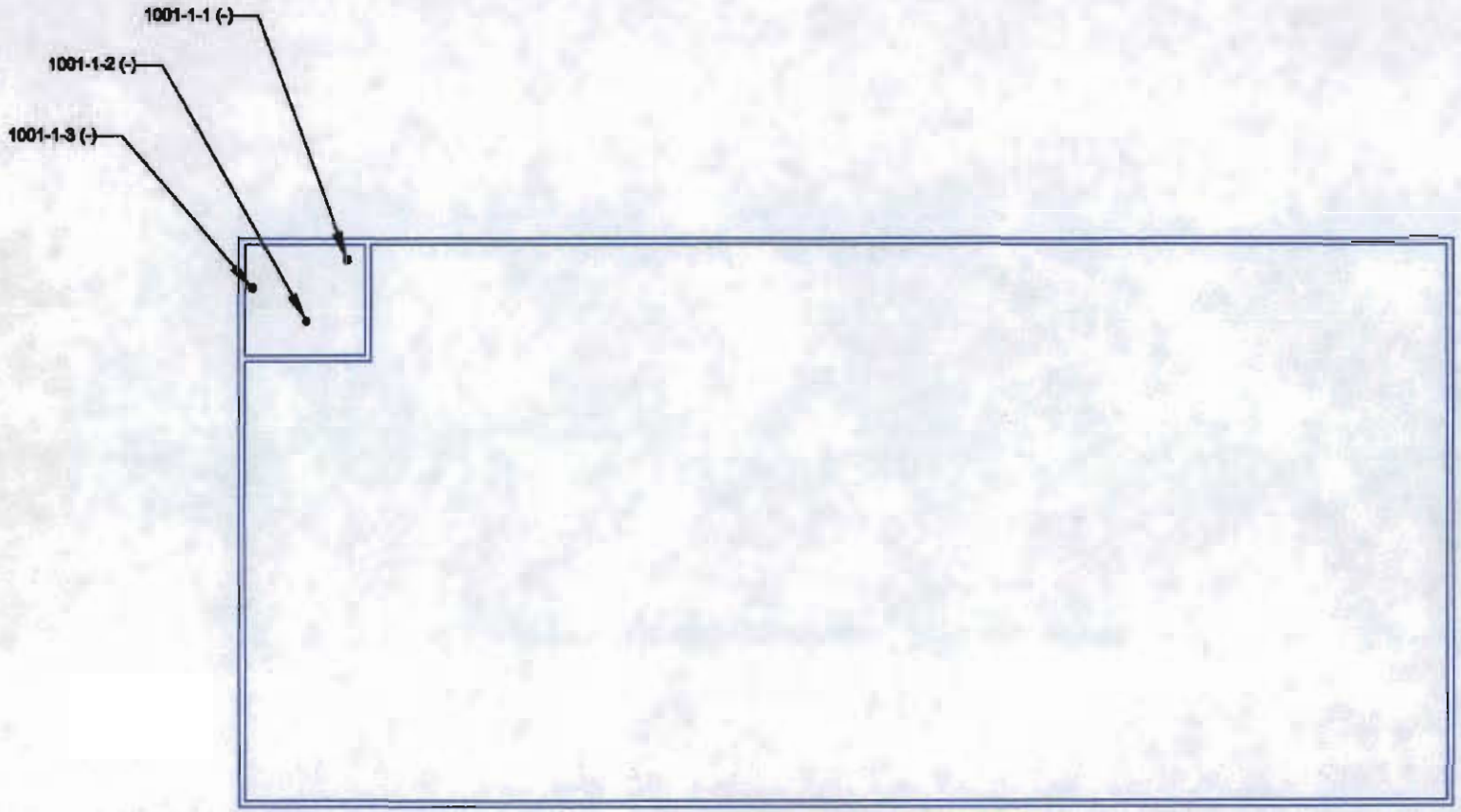
Identified ACM	Quantity	NESHAP Category
None.		

The following materials were not sampled in order to avoid disrupting their integrity, and they were assumed to contain asbestos:

Assumed ACM	Quantity	NESHAP Category
None.		

APPENDIX A

SAMPLE LOCATION DRAWINGS



NOTE: No Asbestos-Containing Materials Identified In This Building.

BUILDING 1001

Sample and Asbestos-Containing Material Location

LEGEND

- • - Sample Location
- (-) - Non-Asbestos-Containing Sample Location

N

0' 5' 10' 20'

BAT Associates, Inc.
ENVIRONMENTAL, HEALTH & SAFETY SERVICES
3151 BROOK HOLLOW PARKWAY, SUITE 200
NORCROSS, GA 30071

APPENDIX B

LABORATORY ANALYSIS RESULTS

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:	B9323
PROJECT NAME:	CHARLESTON NSY / 971001-13.03	DATE RECEIVED:	12/6/99
PROJECT NO:	L802Z.000	REPORT ISSUED:	12/14/99
SAMPLE FIELD ID:	**1001-1-1**	LAB ID:	927141
SAMPLE INFO:		DATE ANALYZED:	12/13/99

SAMPLE DESCRIPTION

LAYERED: NO

APPEARANCE: BROWN HARD RESILIENT TO GRANULAR WITH BLACK MASTIC

RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)

ASBESTOS FIBERS	NONASBESTOS FIBERS		NONFIBROUS COMPONENTS		OTHER COMPONENTS	
CHRYSOTILE	CELLULOSE		VERMICULITE/MICA		BITUMEN/TAR	3
AMOSITE	GLASS FIBERS		PERLITE		SAND/AGGR.	30
CROCIDOLITE	SYNTHETICS	1	EXPANDED GLASS		GLUE/CAULK	
TREMOLITE	WOLLASTONITE		SYNTHETIC FOAM		VINYL	
ACTINOLITE	TALC		ALUMINUM/METAL		CORK	
ANTHOPHYLLITE			FOAM RUBBER		LATEX/RUBBER	
					PAINT/OTHER	66

COMMENTS:

SAMPLE WAS ANALYZED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA METHOD 40CFR Ch. I (7-1-92) PT. 763, SUBPT. F, APP. A. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 12/13/99
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:	B9323
PROJECT NAME:	CHARLESTON NSY / 971001-13.03	DATE RECEIVED:	12/6/99
PROJECT NO:	L802Z.000	REPORT ISSUED:	12/14/99
SAMPLE FIELD ID:	**1001-1-2**	LAB ID:	927142
SAMPLE INFO:		DATE ANALYZED:	12/13/99

SAMPLE DESCRIPTION

LAYERED: NO

APPEARANCE: BROWN HARD RESILIENT TO GRANULAR WITH BLACK MASTIC

RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)

ASBESTOS FIBERS		NONASBESTOS FIBERS		NONFIBROUS COMPONENTS		OTHER COMPONENTS	
CHRYSOTILE		CELLULOSE	1	VERMICULITE/MICA		BITUMEN/TAR	3
AMOSITE		GLASS FIBERS		PERLITE		SAND/AGGR.	30
CROCIDOLITE		SYNTHETICS	1	EXPANDED GLASS		GLUE/CAULK	
TREMOLITE		WOLLASTONITE		SYNTHETIC FOAM		VINYL	
ACTINOLITE		TALC		ALUMINUM/METAL		CORK	
ANTHOPHYLLITE				FOAM RUBBER		LATEX/RUBBER	
						PAINT/OTHER	65

COMMENTS:

SAMPLE WAS ANALYZED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA METHOD 40CFR Ch. I (7-1-92) PT. 763, SUBPT. F, APP. A. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 12/13/99
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

[redacted]
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:	B9323
PROJECT NAME:	CHARLESTON NSY / 971001-13.03	DATE RECEIVED:	12/6/99
PROJECT NO:	L802Z.000	REPORT ISSUED:	12/14/99
SAMPLE FIELD ID:	**1001-1-3**	LAB ID:	927143
SAMPLE INFO:		DATE ANALYZED:	12/13/99

SAMPLE DESCRIPTION

LAYERED: NO

APPEARANCE: BROWN HARD RESILIENT TO GRANULAR WITH BLACK MASTIC

RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)

ASBESTOS FIBERS		NONASBESTOS FIBERS		NONFIBROUS COMPONENTS		OTHER COMPONENTS	
CHRYSOTILE		CELLULOSE	1	VERMICULITE/MICA		BITUMEN/TAR	3
AMOSITE		GLASS FIBERS		PERLITE		SAND/AGGR.	30
CROCIDOLITE		SYNTHETICS	1	EXPANDED GLASS		GLUE/CAULK	
TREMOLITE		WOLLASTONITE		SYNTHETIC FOAM		VINYL	
ACTINOLITE		TALC		ALUMINUM/METAL		CORK	
ANTHOPHYLLITE				FOAM RUBBER		LATEX/RUBBER	
						PAINT/OTHER	65

COMMENTS:

SAMPLE WAS ANALYZED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA METHOD 40CFR Ch. I (7-1-92) PT. 763, SUBPT. F, APP. A. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 12/13/99
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

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 **DOUGLAS J. MILTON**	
BAT JOB NAME **Charleston Naval Shipyard**	BAT JOB NO. **971001** TASK NO. **13.03**
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. 1886-1-1	16.
2. 1886-1-2	17.
3. 1886-1-3	18.
4. 1886-2-1	19.
5. 1886-2-2	20.
6. 1886-2-3	21.
7. 1886-3-1	22.
8. 1886-3-2	23.
9. 1886-3-3	24.
10. 1886-4-1	25.
11. 1886-4-2	26.
12. 1886-4-3	27.
13. 1001-1-1	28.
14. 1001-1-2	29.
15. 1001-1-3	30.

SPECIAL INSTRUCTIONS: **Navy Project Rates**

Relinquished by:	Received by:
Date: 12/6/99 Time: 10:00	Date: 12/6/99 Time: 10:40

APPENDIX C

PERSONNEL AND LABORATORY ACCREDITATIONS

The Environmental Institute

Jason McGlashan

Social Security Number - 137-62-0377

Has completed coursework and satisfactorily passed

an examination that meets all criteria required for

EPA/AHERA/ASHARA (TSCA Title II) Approved Accreditation

and NESHAP Regulations Training

Asbestos in Buildings: Inspection and Assessment

June 21-23, 1999
Course Date

2594
Certificate Number

June 23, 1999
Examination Date

June 22, 2000
Expiration Date

R. A. Short
Ronald A. Short - Course Director

Rachel G. McCain
Rachel G. McCain - Exam Administrator

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

The Environmental Institute

Douglas J. Milton

Social Security Number - 266-55-7179

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

December 15, 1999
Course Date

6398
Certificate Number

December 15, 1999
Examination Date

December 14, 2000
Expiration Date

Tod A. Dawson - Course Director

Rachel G. McCain - Exam Administrator

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

The

American Board of Industrial Hygiene®

ABIH®

organized to improve the practice of Industrial Hygiene
proclaims that

Douglas J. Milton

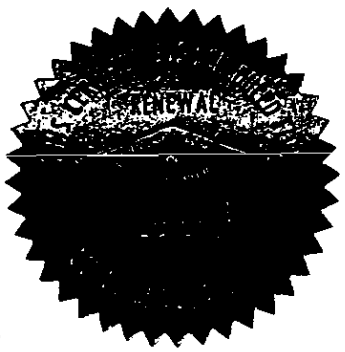
having met all requirements through
education, experience and examination,
is hereby certified in the

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

Secretary ABIH

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, 2000

Effective through

For the National Institute of Standards and Technology

NVLAP Lab Code: 102111-0

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 ★

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, 2000
Effective through

For the National Institute of Standards and Technology

NVLAP Lab Code: 102033-0

NVLAP-01C (11-95)