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CNC CHARLESTON  
5090.3a

FRIABLE AND DAMAGED FRIABLE ASBESTOS CONTAINING MATERIALS SURVEY AT  
THE CHARLESTON NAVAL SHIPYARD CNC CHARLESTON SC  
9/1/2000  
CAPE ENVIRONMENTAL MANAGEMENT INC

**FRIABLE AND DAMAGED FRIABLE ASBESTOS-CONTAINING  
MATERIALS SURVEY AT THE  
CHARLESTON NAVAL SHIPYARD  
CHARLESTON, SOUTH CAROLINA**

**CONTRACT NUMBER N62467-00-D-0345**

**DELIVERY ORDER NUMBER 0008**

**CAPE PROJECT No: 00009.009.000**

*Prepared For:*



**2155 Eagle Drive, PO Box 190010  
North Charleston, SC 29419-9010**

*Prepared By:*



**2302 Parklake Dr. Suite 200  
Atlanta, GA**

**Contacts**

**Juan Hernandez, Project Manager  
Hugo Rios, Program Manager**

**SEPTEMBER 2000**

**Friable and Damaged Friable Asbestos-Containing Materials Survey for  
Buildings 81, 86, 141, 180, 199, 220, 658, 1079, 1509, 1777, 1884, 1886,  
1892, NS67, and NS675 at Charleston Naval Shipyard  
Charleston, South Carolina**

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- Part 2      Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM
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Survey Data of Field Verification of Damaged ACM Quantities in Buildings 31, 32, 33, 34, 35 and 36 at CNSY Charleston, Charleston, SC.

## EXECUTIVE SUMMARY

CAPE Environmental Management Inc (CAPE) was retained by Southern Division, Naval Facilities Engineering Command (Southern Division NAVFACENGCOM) to prepare a detailed survey, inventory, and assessment of friable and damaged friable asbestos-containing material (ACM) of buildings 81, 86, 141, 180, 199, 220, 658, 1079, 1509, 1777, 1884, 1886, 1892, NS67, and NS675 at the Charleston Naval Shipyard, Charleston, South Carolina. The scope of work also included verification of damaged ACM quantities in Buildings 31, 32, 33, 34, 35 and 36 at CNSY, Charleston, SC. The project was completed between May 8, 2000 and August 10, 2000 under Contract Number N62467-00-D-0345 and Delivery Order Number 0008.

The purpose of the survey was to update the inventory of friable and damaged friable ACM in each building and assess the condition in compliance with the Department of Defense (DoD) Policy on asbestos at Base Realignment and Closure (BRAC) properties.

Identification and qualification of non-friable ACM in good condition was not included in the scope of work. In addition, destructive sampling (damaging non-suspect ACM to access potential suspect ACM behind walls, chases, and other architectural elements) was not performed. Consequently, non-friable ACM and additional friable ACM hidden behind walls, chases, and other architectural elements may be present in the buildings.

CAPE recommends that the owner retains the services of a licensed asbestos consultant/abatement contractor to perform a pre-construction asbestos survey (including destructive sampling) prior to any renovation, construction, or demolition activity in any of the buildings.

### **Summary of Damaged Friable ACM Identified:**

#### Building 81

- 9"x 9" floor tile and mastic, green
- Window putty

#### Building 86

- 9"x 9" non-asbestos-containing floor tile with asbestos-containing mastic, white
- 9"x 9" asbestos-containing floor tile with non-asbestos containing mastic, green
- 9"x 9" asbestos-containing floor tile with non-asbestos containing mastic, tan
- 9"x 9" floor tile and mastic, brown
- 12"x 12" floor tile and mastic, white w/ black spots
- 12"x 12" asbestos-containing floor tile with non-asbestos containing mastic, green w/ white streaks
- Joint compound associated with gypsum wallboard
- Joint compound associated with gypsum board ceiling
- Spray applied ceiling material
- Window putty

## **Summary of Damaged Friable ACM Identified Continued:**

### Building 86 Continued:

- Roofing material
- Contaminated soil

### Building 141

- 9"x 9" asbestos-containing floor tile with non-asbestos containing mastic, gray

### Building 180

- 9"x 9" floor tile and mastic, orange w/ brown smudges
- Contaminated soil

### Building 220

- 12"x 12" non-asbestos containing floor tile with asbestos-containing mastic, tan
- Joint compound with associated gypsum wallboard
- Transite-type wall panels
- Textured ceiling material

### Building 658

- 9"x 9" floor tile and mastic, white
- 12"x 12" asbestos-containing floor tile with non-asbestos containing mastic, white

### Building 1509

- Window putty

### Building NS67

- Pipe fitting insulation on steam lines
- Contaminated soil

### Building NS675

- Linoleum flooring w/ adhesive, yellow

## **The following buildings were found to contain friable ACM in good condition:**

- Building 81
- Building 86
- Building 199
- Building 220

**The following buildings were found to contain no friable ACM:**

- Building 1079
- Building 1777
- Building 1884
- Building 1886

**The following buildings were found to contain no friable ACM (Continued)**

- Building 1892

## INTRODUCTION

Cape Environmental Management Inc (CAPE) was retained by Southern Division, Naval Facilities Engineering Command (Southern Division NAVFACENGCOM) to prepare a detailed survey, inventory and assessment of friable and damaged friable asbestos-containing material (ACM) located in buildings at the Charleston Naval Shipyard, Charleston, SC. The scope of work also included verification of damaged ACM quantities in Buildings 31, 32, 33, 34, 35 and 36 at CNSY, Charleston, SC. The survey was performed by AHERA accredited asbestos building inspectors Brian Downes (EPA/AHERA Re-Accreditation Certificate # 6142) and David Bratley (EPA/AHERA Re-Accreditation Certificate # 6419). The project was completed between May 8, 2000 and August 10, 2000 under Contract Number N62467-00-0345 and Delivery Order Number 0008.

The purpose of this survey was to update the inventory of friable and damaged friable ACM in each building and assess the condition of each friable ACM homogeneous area for compliance with Department of Defense (DoD) policy on asbestos at Base Realignment and Closure (BRAC) properties. The identification and quantification of non-friable ACM in good condition was not included in the scope of work. DoD policy allows transfer of properties “as is” if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM’s identified in this report as being in good condition, and which remain in good condition, are not required to be remediated prior to transfer. All friable ACM in good condition along with any suspect non-friable ACM present in the buildings should be properly managed until the facility is transferred through the BRAC process.

The asbestos survey was conducted utilizing 40 CFR Part 763, Asbestos-Containing Materials in school; Final rule and Notice, commonly referred to as the Asbestos Hazard Emergency Response Act (AHERA) as a guide and in compliance with South Carolina Department of Health and Environmental Control regulations.

Once suspect friable ACM were identified, homogeneous sampling areas (areas that are uniform in color, texture, construction/application date, and general appearance) were delineated. Each homogeneous sampling area was then assigned a unique homogenous area (HA) number and the appropriate number of bulk samples were collected from each HA.

Suspect-ACM samples were analyzed by Polarized Light Microscopy (PLM) using dispersion staining techniques in accordance with EPA/600/R-93/116 Method. CAPE’s laboratory located in Atlanta, GA (NVLAP # 102111) served as the laboratory for initial PLM analysis. Material Analytical Services (MAS) located in Atlanta, GA (NVLAP # 101235) served as the quality control laboratory for PLM analysis. In accordance with EPA’s 1994 clarification for analysis of multi-layered systems, suspect materials are treated as asbestos containing if one or more layers of the material is determined to contain greater than 1% asbestos.

In accordance with the Navy’s scope of work, friable ACM determined to contain asbestos in quantities of less than 1% (by initial PLM analysis) were verified by PLM point counting as a means to quantitatively confirm whether asbestos content was above or below 1%. Results subsequently determined by PLM point counting to contain less than 1% asbestos were

considered to be non asbestos containing. CAPE's laboratory located in Atlanta, GA (NVLAP # 102111) served as the laboratory for PLM point count analysis.

In accordance with the Navy's scope of work, transmission electron microscopy (TEM) analysis was used to confirm negative PLM analysis results of damaged friable floor tile identified. TEM analysis was performed by Material Analytical Services (MAS) using MAS SOP #MT-011, "Modified Chatfield TEM Method".

The following buildings were included in the Navy's scope of work:

Building #/Description:

81	Fire Station No. 2
86	Cooper River Center
141	Fire Dept. Storage
180	Sterret Hall
199	Training Building
220	Golf Pro Shop
658	Barracks
1079	Storage
1509	Storage
1777	Administration (CBU 412)
1884	Steel Shop (CBU 412)
1886	General Storage (CBU 412)
1892	Supply Storage (CBU 412)
NS67	Men's Barracks
NS675	Dental Clinic

Sample Identification

The bulk sample identification numbering system for this survey was based on the following scheme:

CNSY-X-01-01

- CNSY = Facility abbreviation
- X = Building identification
- 01 = Homogeneous area number
- 01 = Sequential sample I.D.

This report is organized as follows:

- **Executive Summary**
- **Introduction**
- **Survey Findings:** Survey Findings for each building are presented in the following Four Parts within each tabbed section:
  - Part 1 - *Friable ACM Inventory*** (presented in tabular format including homogeneous area number, material description, material location, material type, approximate homogeneous area quantity and damage assessment). ***Damaged Friable ACM*** (presented in tabular format including homogeneous area number, material description, damage location, approximate damaged quantity and recommended abatement response actions).
  - Suspect Friable ACM Bulk Sample Analysis Results*** (presented in tabular format including homogeneous area number, material description, material location, year sample was collected, sample numbers, individual bulk sample analysis results, and ACM Yes or Not Determination).
  - Part 2 - Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**
  - Part 3 - Photographs of Friable and Damaged Friable Homogeneous Areas**
  - Part 4 - Laboratory Bulk Sample Analysis Reports**
- **Certificates - Personnel/Laboratory Certifications**
- **Appendix A – Survey Data of Field Verification of Damaged ACM Quantities in Buildings 31, 32, 33, 34, 35 and 36 at CNSY Charleston, Charleston, SC.**

The following buildings are included in Appendix A:

Building # / Description:

31	Living Quarters (Vacant)
32	Living Quarters (Vacant)
33	Living Quarters (Vacant)
34	Living Quarters (Vacant)
35	Living Quarters (Vacant)
36	Living Quarters (Vacant)

Appendix A is organized as follows:

- **Introduction**
- **Survey Findings**
  1. Friable ACM Inventory, Damaged Friable ACM, Suspect Friable ACM Bulk Sample Analysis Results
  2. Drawing indicating Bulk Sample Locations
  3. Laboratory Bulk Sample Analysis Reports
  4. Personnel / Laboratory Certifications

# **BUILDING 81**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 81**  
**DESCRIPTION: Fire Station No. 2**

Building 81 is a single-story structure totaling 3,000 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged 9"x9" floor tile and mastic, green	101	Misc	230 SF	Damaged
3	Damaged window putty	Interior windows	Misc	650 LF	Damaged
5	Pipe fitting insulation	103	TSI	8 EA	Good

Legend: Misc = Miscellaneous TSI = Thermal System Insulation

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## **FACILITY NO.: 81**

### **DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

<b>HA#</b>	<b>Material Description</b>	<b>Damage Location</b>	<b>Damage Quantity</b>	<b>Abatement Response Action</b>
1	9"x9" floor tile and mastic, green	101	230 SF	Remove/replace
3	Window putty	Interior windows	650 LF	Remove/replace

*Abatement Comments: None*

### ***Non-Damaged/Friable ACM:***

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 81

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

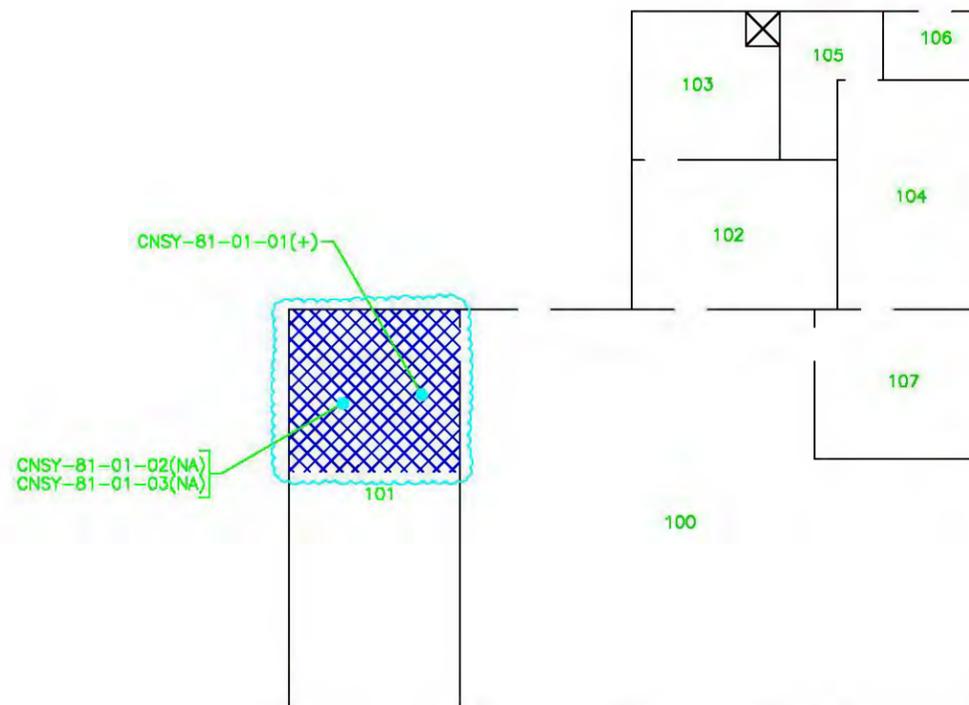
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged 9"x9" floor tile and mastic, green	101	CAPE 2000	CNSY-81-01-01-QC CNSY-81-01-01 CNSY-81-01-02 CNSY-81-01-03	20% CHR (T), 3% CHR (M) 12% CHR (T), 2% CHR (M) NA NA	Yes
2	2'x4' ceiling tile, pinhole	101, 107	CAPE 2000	CNSY-81-02-01 CNSY-81-02-02 CNSY-81-02-03	NAD NAD NAD	No
3	Damaged window putty	Interior windows	CAPE 2000	CNSY-81-03-01-QC CNSY-81-03-01 CNSY-81-03-02 CNSY-81-03-03	NAD NAD 3% CHR NA	Yes
4	Damaged window caulk	Exterior windows	CAPE 2000	CNSY-81-04-01 CNSY-81-04-02 CNSY-81-04-03	NAD NAD NAD	No
5	Pipe fitting insulation on steam lines	103	CAPE 2000	CNSY-81-05-01-QC CNSY-81-05-01 CNSY-81-05-02 CNSY-81-05-03	5% CHR, 5% AMO 3% CHR, 5% AMO NA NA	Yes

Legend: NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed      AMO = Amosite  
(T) = Floor tile      (M) = Mastic

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 81 - FLOOR PLAN**

SCALE: 1/16" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM) IDENTIFIED - FLOORS AND WALLS



DAMAGED ASBESTOS-CONTAINING FLOOR TILE AND MASTIC



LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL.

**NOTE:**

NO FRIABLE ASBESTOS-CONTAINING WALL MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**NOTE**

NO FRIABLE ASBESTOS-CONTAINING ROOFING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

**TYPICAL CAPE SAMPLE I.D. No.**

CNSY- 81 -01-01(+)

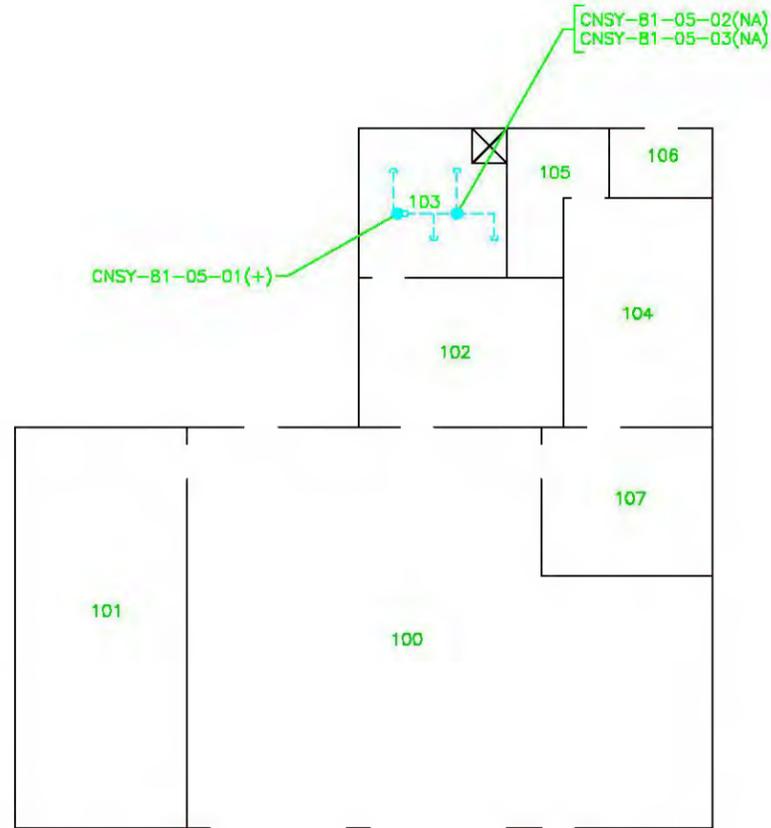
- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- SAMPLE I.D. No.
- HOMOGENEOUS AREA No.
- BUILDING IDENTIFICATION
- CHARLESTON NAVAL SHIPYARD



SCALE: 1/16" = 1'-0"

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DIR	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR
BUILDING 81 - FLOOR PLAN (FLOORS AND WALLS)		DIR
APPROVED	DATE	OFFICER IN CHARGE
EDD FOR COMMANDER, NAVFAC	APPROVED	FPE
DATE	DATE	DIR
SEAL AREA		
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PRL. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO. N62487-98-0-1012		
NAVFAC DRAWING NO. N/A		
SHEET 1 OF 2		
81ASB-1		





**BUILDING 81 - FLOOR PLAN**

SCALE: 1/16" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED - THERMAL SYSTEMS  
INSULATION (T.S.I.)

- ASBESTOS-CONTAINING PIPE FITTING INSULATION OF FIBERGLASS INSULATED STEAM LINES
- PIPE TURNS UP
- PIPE TURNS DOWN

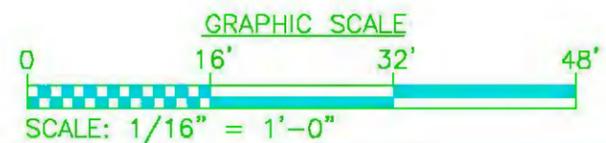
**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

**TYPICAL CAPE SAMPLE I.D. No.**

CNSY- 81 -01-01(+)

- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- SAMPLE I.D. No.
- HOMOGENEOUS AREA No.
- BUILDING IDENTIFICATION
- CHARLESTON NAVAL SHIPYARD



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DATE	DATE
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DATE
BUILDING 81 - FLOOR PLAN (THERMAL SYSTEM INSULATION)		DATE
APPROVED	DATE	DATE
SEAL AREA	DATE	DATE
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PRL No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO. N62487-98-0-1012		
NAVFAC DRAWING NO. N/A		
SHEET 3 OF 2		
81ASB-3		

## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged 9"x9" floor tile and mastic, green	101	YES



HA #	Material Description	Material Location	ACM (YES/NO)
2	2'x4' ceiling tile, pinhole	101, 107	NO



HA #	Material Description	Material Location	ACM (YES/NO)
3	Damaged window putty	Interior windows	YES



HA #	Material Description	Material Location	ACM (YES/NO)
4	Damaged window caulk	Exterior windows	NO



HA #	Material Description	Material Location	ACM (YES/NO)
5	Pipe fitting insulation on steam lines	103	YES

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/>	STOP POSITIVE <input type="checkbox"/>

SAMPLE ID	SAMPLE ID
1 CNSY-81-01-01	16
2 CNSY-81-01-02	17
3 CNSY-81-01-03	18
4 CNSY-81-02-01	19
5 CNSY-81-02-02	20
6 CNSY-81-02-03	21
7 CNSY-81-03-01	22
8 CNSY-81-03-02	23
9 CNSY-81-03-03	24
10 CNSY-81-04-01	25
11 CNSY-81-04-02	26
12 CNSY-81-04-03	27
13 CNSY-81-05-01	28
14 CNSY-81-05-02	29
15 CNSY-81-05-03	30

SPECIAL INSTRUCTIONS:

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RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/2/00

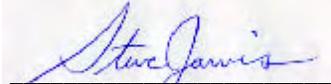
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 3

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7198-1	CNSY-81-01-01		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)		12 CHRYSOTILE	1 CELLULOSE	25 AGGREGATES 62 OTHER
7198-2	CNSY-81-01-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		2 CHRYSOTILE	1 CELLULOSE	85 BITUMEN 12 OTHER
7199	CNSY-81-01-02			NOT ANALYZED	NOT ANALYZED			
7200	CNSY-81-01-03			NOT ANALYZED	NOT ANALYZED			
7201	CNSY-81-02-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 30 GLASS FIBERS	25 PERLITE 10 OTHER
7202	CNSY-81-02-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7203	CNSY-81-02-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7204	CNSY-81-03-01		1 (of 1)	TAN HARD SILTY WITH PAINT			2 CELLULOSE	98 OTHER

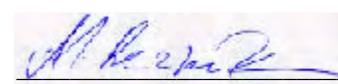
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0114  
DATE RECEIVED: 5/30/00  
DATE ANALYZED: 6/2/00

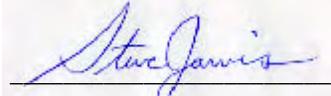
REPORT ISSUED: 9/12/00  
PAGE: 2 of 3

**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7205	CNSY-81-03-02		1 (of 1)	GRAY HARD SILTY WITH PAINT		3 CHRYSOTILE	1 CELLULOSE	1 MICA/ VERMICULITE 95 OTHER
7206	CNSY-81-03-03			NOT ANALYZED	NOT ANALYZED			
7207	CNSY-81-04-01		1 (of 1)	TAN HARD SILTY WITH AGGREGATES AND PAINT			1 CELLULOSE	10 AGGREGATES 89 OTHER
7208	CNSY-81-04-02		1 (of 1)	GRAY AND TAN HARD SILTY WITH PAINT			1 CELLULOSE 3 TALC	96 OTHER
7209	CNSY-81-04-03		1 (of 1)	GRAY AND WHITE HARD SILTY WITH PAINT			2 CELLULOSE	1 MICA/ VERMICULITE 97 OTHER
7210	CNSY-81-05-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS		3 CHRYSOTILE 5 AMOSITE	7 CELLULOSE 25 GLASS FIBERS	60 OTHER
7211	CNSY-81-05-02			NOT ANALYZED	NOT ANALYZED			

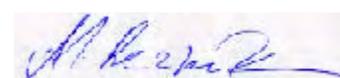
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0114  
DATE RECEIVED: 5/30/00  
DATE ANALYZED: 6/2/00

REPORT ISSUED: 9/12/00  
PAGE: 3 of 3

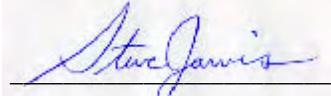
**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7212	CNSY-81-05-03			NOT ANALYZED	NOT ANALYZED			

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.

FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

# **BUILDING 86**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 86**  
**DESCRIPTION: Cooper River Center**

Building 86 is a single-story structure totaling 22,149 square feet. The building was constructed in 1960.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged 9"x9" non-asbestos containing floor tile with asbestos-containing mastic, white	100A	Misc	10 SF	Damaged
2	Damaged 9"x9" asbestos-containing floor tile with non-asbestos containing mastic, green	A1	Misc	25 SF	Damaged
3	Damaged 9"x9" asbestos-containing floor tile with non-asbestos containing mastic, tan	C3	Misc	15 SF	Damaged
4	Damaged 9"x9" floor tile and mastic, brown	102	Misc	30 SF	Damaged
5	Damaged 12"x12" floor tile and mastic, white w/black spots	B1, C5	Misc	20 SF	Damaged
7	Damaged 12"x12" asbestos-containing floor tile with non-asbestos containing mastic, green w/white streaks	A3	Misc	190 SF	Damaged
8	Damaged joint compound associated with gypsum wallboard	A3, 102	Misc	50 SF	Damaged
9	Light fixture insulation	A2, 104	Misc.	2 EA	Good
15	Damaged joint compound associated with gypsum board ceiling	116, C1	Misc.	120 SF	Damaged
16	Spray-applied ceiling material	100A, 120	Surf	600 SF	Damaged

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
20	Damaged window putty	Exterior windows	Misc.	1,100 LF	Damaged
22	Damaged roofing material	Roof	Misc.	90 SF	Damaged
23	Contaminated soil	Crawlspace	Misc	8,850 SF	Damaged

Legend: Misc = Miscellaneous Surf = Surfacing

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any “assumed” or “presumed” asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 86

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
1	9"x9" non-asbestos containing floor tile with asbestos-containing mastic, white	100A	10 SF	Remove/replace
2	9"x9" asbestos-containing floor tile with non-asbestos containing mastic, green	A1	25 SF	Remove/replace
3	9"x9" asbestos-containing floor tile with non-asbestos containing mastic, tan	C3	15 SF	Remove/replace
4	9"x9" floor tile and mastic, brown	102	30 SF	Remove/replace
5	12"x12" floor tile and mastic, white w/black spots	B1, C5	20 SF	Remove/replace
7	12"x12" asbestos-containing floor tile with non-asbestos containing mastic, green w/white streaks	A3	190 SF	Remove/replace
8	Joint compound associated with gypsum wallboard	A3, 102	50 SF	Repair
15	Joint compound associated with gypsum board ceiling	116, C1	120 SF	Repair
16	Spray-applied ceiling material	120	40 SF	Repair
20	Window putty	Exterior windows	1,100 LF	Repair
22	Roofing material	Roof	90 SF	Encapsulate
23	Contaminated soil	Crawlspace	8,850 SF	Isolate/remove

*Abatement Comments:* HA #1 is underneath HA #6  
 HA #15 (Asbestos-containing joint compound with associated gypsum ceiling) is behind HA #10 (Non-asbestos containing 1'x1' ceiling tile, grooved)

### Non-Damaged/Friable ACM:

DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.

## FACILITY NO.: 86

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged 9"x9" floor tile and mastic, white	100A	CAPE 2000	CNSY-86-01-01-QC CNSY-86-01-01 CNSY-86-01-02 CNSY-86-01-03	NAD (T), 20% CHR (M) NAD (T), 7% CHR (M) NAD (T), NA (M) NAD (T), NA (M)	Yes
2	Damaged 9"x9" floor tile and mastic, green	A1	CAPE 2000	CNSY-86-02-01 CNSY-86-02-02 CNSY-86-02-03	15% CHR (T) NAD (M) NA (T), NAD (M) NA (T), NAD (M)	Yes
3	Damaged 9"x9" floor tile and mastic, tan	C3	CAPE 2000	CNSY-86-03-01 CNSY-86-03-02 CNSY-86-03-03	3% CHR (T), NAD (M) NA (T), NAD (M) NA (T), NAD (M)	Yes
4	Damaged 12"x12" floor tile and mastic, brown	102	CAPE 2000	CNSY-86-04-01-QC CNSY-86-04-01 CNSY-86-04-02 CNSY-86-04-03	3% CHR (T), 20% (M) <1% CHR (T), 10% CHR (M) 2% CHR (T), NA (M) NA	Yes
5	Damaged 12"x12" floor tile and mastic, white w/ black spots	B1, C5	CAPE 2000	* CNSY-86-05-01 CNSY-86-05-02 CNSY-86-05-03	2.5% CHR (T), 8% (M) < 1% CHR (T), NA (M) < 1% CHR (T), NA (M)	Yes
6	Damaged 12"x12" floor tile and mastic, brick red	100A, 103	CAPE 2000	CNSY-86-06-01 CNSY-86-06-02 * CNSY-86-06-03	NAD NAD NAD	No
7	Damaged 12"x12" floor tile and mastic, green w/ white streaks	A3	CAPE 2000	CNSY-86-07-01 CNSY-86-07-02 CNSY-86-07-03	2% CHR (T), NAD (M) NA (T), NAD (M) NA (T), NAD (M)	Yes
8	Damaged joint compound associated with gypsum wallboard	A3, 102	CAPE 2000	CNSY-86-08-01 CNSY-86-08-02 CNSY-86-08-03	15% CHR (JC) 3% CHR (JC) NAD	Yes

\* The floor tile for this sample was analyzed by "Chatfield TEM Method"

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
9	Light fixture insulation	A2, 104	CAPE 2000	CNSY-86-09-01 CNSY-86-09-02 CNSY-86-09-03	35% CHR NA NA	Yes
10	1'x1' ceiling tile, grooved	C1, C2, C4, 115-117, 101	CAPE 2000	CNSY-86-10-01-QC CNSY-86-10-01 CNSY-86-10-02 CNSY-86-10-03	NAD NAD NAD NAD	No
11	2'x2' ceiling tile, grooved-pinhole	C3, 117	CAPE 2000	CNSY-86-11-01 CNSY-86-11-02 CNSY-86-11-03	NAD NAD NAD	No
12	2'x2' ceiling tile, recessed-rough	101	CAPE 2000	CNSY-86-12-01 CNSY-86-12-02 CNSY-86-12-03	NAD NAD NAD	No
13	2'x2' ceiling tile, recessed-grooved-pinhole	120	CAPE 2000	CNSY-86-13-01-QC CNSY-86-13-01 CNSY-86-13-02 CNSY-86-13-03	NAD NAD NAD NAD	No
14	2'x2' ceiling tile, recessed-pitted-pinhole	121	CAPE 2000	CNSY-86-14-01 CNSY-86-14-02 CNSY-86-14-03	NAD NAD NAD	No
15	Damaged joint compound associated with gypsum board ceiling	116, C1	CAPE 2000	CNSY-86-15-01 CNSY-86-15-02 CNSY-86-15-03	20% CHR (JC) NA NA	Yes
16	Damaged spray-applied ceiling material	100A, 120	CAPE 2000	CNSY-86-16-01 CNSY-86-16-02 CNSY-86-16-03	3% CHR (JC) 3% CHR (JC) 3% CHR (JC)	Yes
17	Pipe fitting insulation on steam lines	M1	CAPE 2000	CNSY-86-17-01-QC CNSY-86-17-01 CNSY-86-17-02 CNSY-86-17-03	NAD NAD NAD NAD	No
18	Pipe fitting insulation on domestic lines	M1	CAPE 2000	CNSY-86-18-01 CNSY-86-18-02 CNSY-86-18-03	NAD NAD NAD	No
19	Damaged capping insulation on chilled water lines	105	CAPE 2000	CNSY-86-19-01 CNSY-86-19-02 CNSY-86-19-03	NAD NAD NAD	No
20	Damaged window putty	Exterior windows	CAPE 2000	CNSY-86-20-01 CNSY-86-20-02 CNSY-86-20-03	NAD NAD 3% CHR	Yes

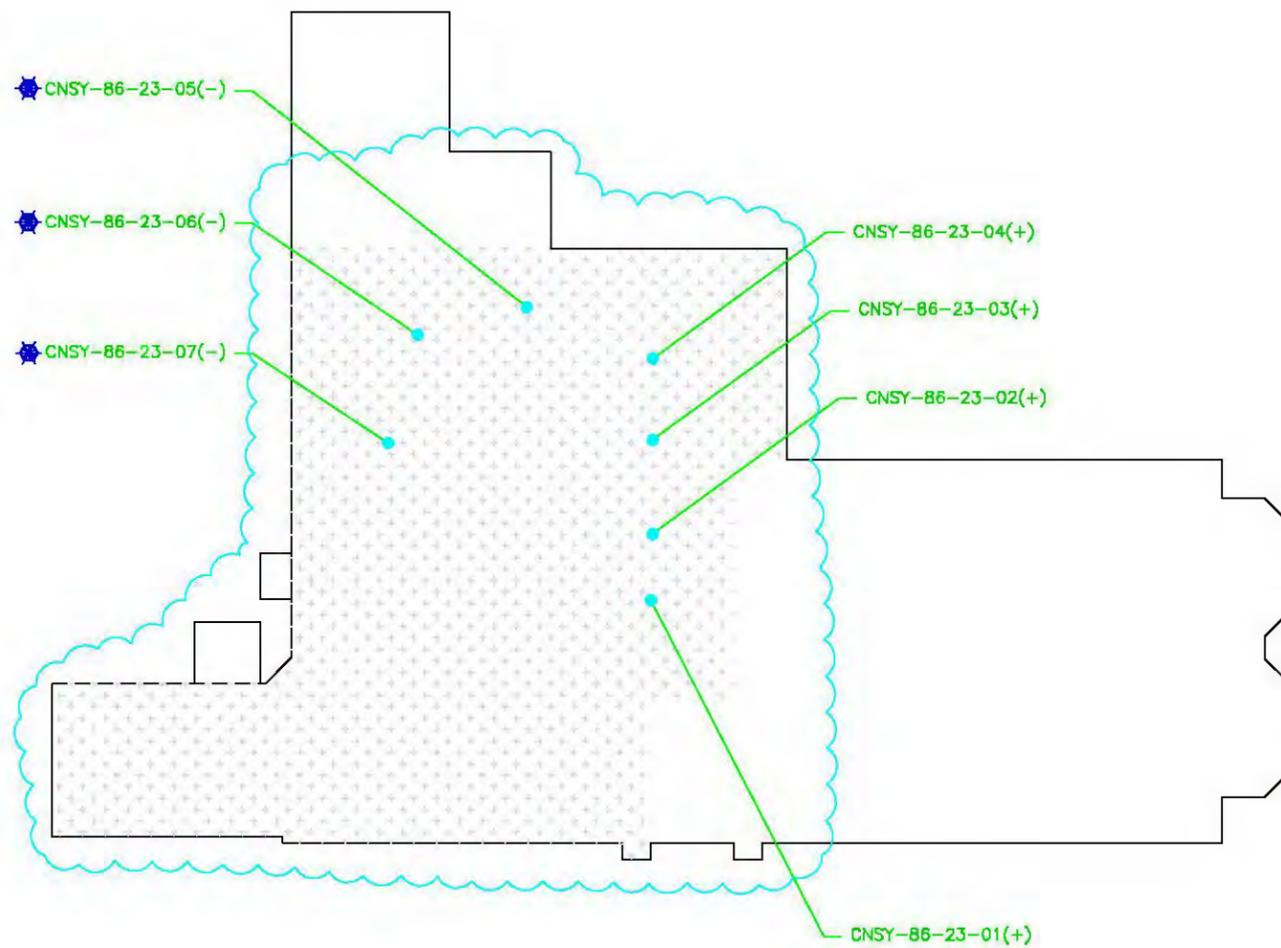
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
21	Damaged silver paint	106	CAPE 2000	CNSY-86-21-01 CNSY-86-21-02 CNSY-86-21-03	NAD NAD NAD	No
22	Damaged roofing material	Roof	CAPE 2000	CNSY-86-22-01 CNSY-86-22-02 CNSY-86-22-03	30 % CHR NA NA	Yes
23	Contaminated soil	Crawlspace	CAPE 2000	CNSY-86-23-01 CNSY-86-23-02 CNSY-86-23-03 CNSY-86-23-04 CNSY-86-23-05 CNSY-86-23-06 CNSY-86-23-07	5% CHR, 3% AMO 15% CHR, 7% AMO 3% CHR 2% CHR, 1% AMO NAD NAD NAD	Yes

Legend: NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed      AMO = Amosite  
(T) = Floor tile      (M) = Mastic      (JC) = Joint Compound

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 86 - CRAWLSPACE PLAN**  
 SCALE: 1/32" = 1'-0"

**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
 IDENTIFIED - CRAWLSPACE



**LEGEND**

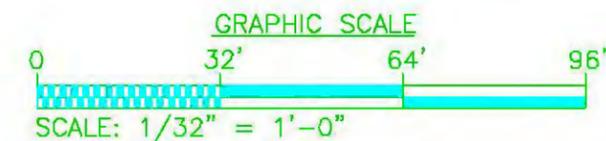
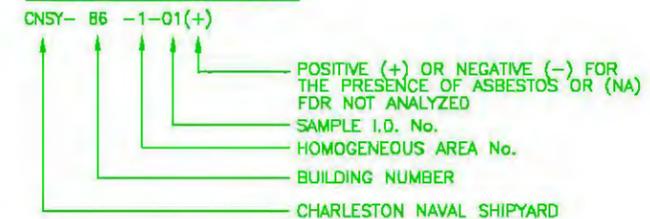
DAMAGED ASBESTOS-CONTAINING MATERIALS  
 (ACM) IDENTIFIED:



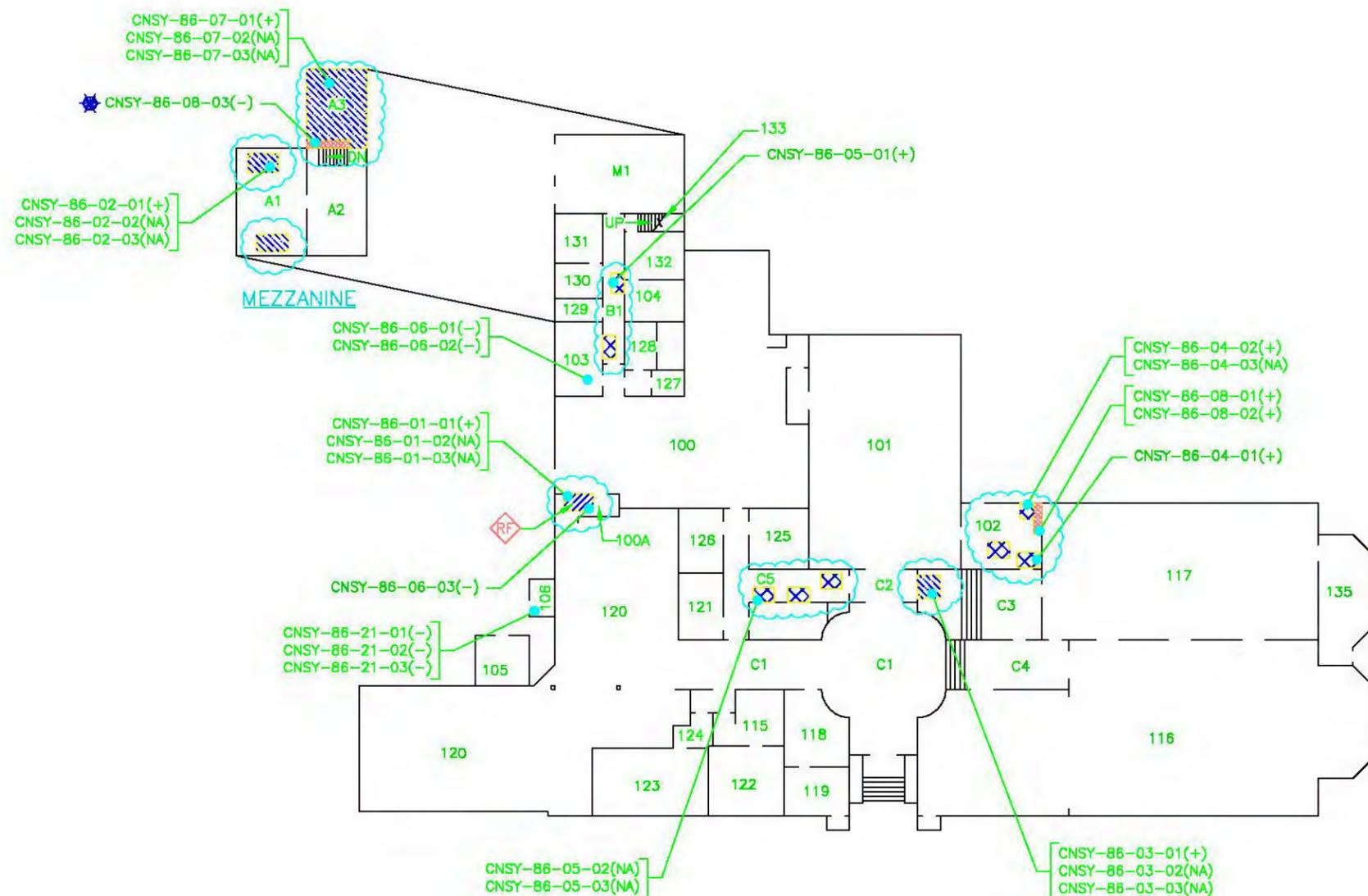
**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- THIS SAMPLE'S ANALYSIS RESULT IS NEGATIVE; HOWEVER, AT LEAST ONE OTHER SAMPLE'S ANALYSIS RESULT OF SAME HOMOGENEOUS MATERIAL IS POSITIVE. THEREFORE ENTIRE HOMOGENEOUS MATERIAL IS CONSIDERED POSITIVE FOR ASBESTOS CONTENT.

**TYPICAL CAPE SAMPLE I.D. No.**



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROVD	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA				ATLANTA
CHARLESTON, S.C.	ISSN				GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	DR				DRK
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	SUPV. PERFORMANCE ENGR				DR CRIS
BUILDING 86 - CRAWLSPACE PLAN	SUBMITTED BY (FIRM MEMBER-TITLE)				DATE
	ED				BR 10
	DATE				OFFICER IN CHARGE
	DATE				DR
APPROVED	ED FOR COMMANDER, NAVFAC	APPROVED			
SEAL AREA					
CODE ID No.	SIZE	B			
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PRL No. 00008.008.000					
SPEC. NO. N/A					
CONSTRN. CNTR. NO.					
N62487-98-0-1012					
NAVFAC DRAWING NO.					
N/A					
SHEET 1	OF 1				
86ASB-1					



**BUILDING 86 - FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"

**SYMBOLS**

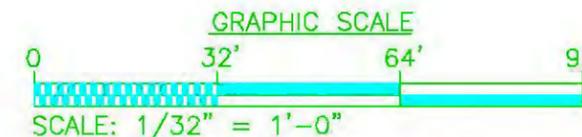
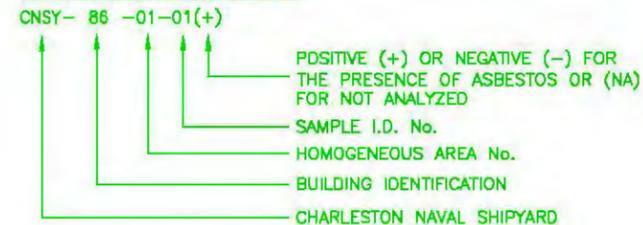
- LOCATION OF SAMPLES COLLECTED
- RF NON-ASBESTOS-CONTAINING RESILIENT FLOORING ABOVE NON-ASBESTOS-CONTAINING FLOORING AND ASBESTOS-CONTAINING MASTIC
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (+) ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).
- ★ THIS SAMPLE'S ANALYSIS RESULT IS NEGATIVE; HOWEVER, AT LEAST ONE OTHER SAMPLE'S ANALYSIS RESULT OF SAME HOMOGENEOUS MATERIAL IS POSITIVE. THEREFORE ENTIRE HOMOGENEOUS MATERIAL IS CONSIDERED POSITIVE FOR ASBESTOS CONTENT.

**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM) IDENTIFIED - FLOORS AND WALLS

- DAMAGED ASBESTOS-CONTAINING FLOOR COVERING AND MASTIC
- DAMAGED ASBESTOS-CONTAINING FLOOR COVERING AND NON-ASBESTOS-CONTAINING MASTIC
- DAMAGED NON-ASBESTOS-CONTAINING FLOOR COVERING AND ASBESTOS-CONTAINING MASTIC
- DAMAGED ASBESTOS-CONTAINING JOINT COMPOUND ASSOCIATED WITH GYPSUM WALLBOARD
- LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL.

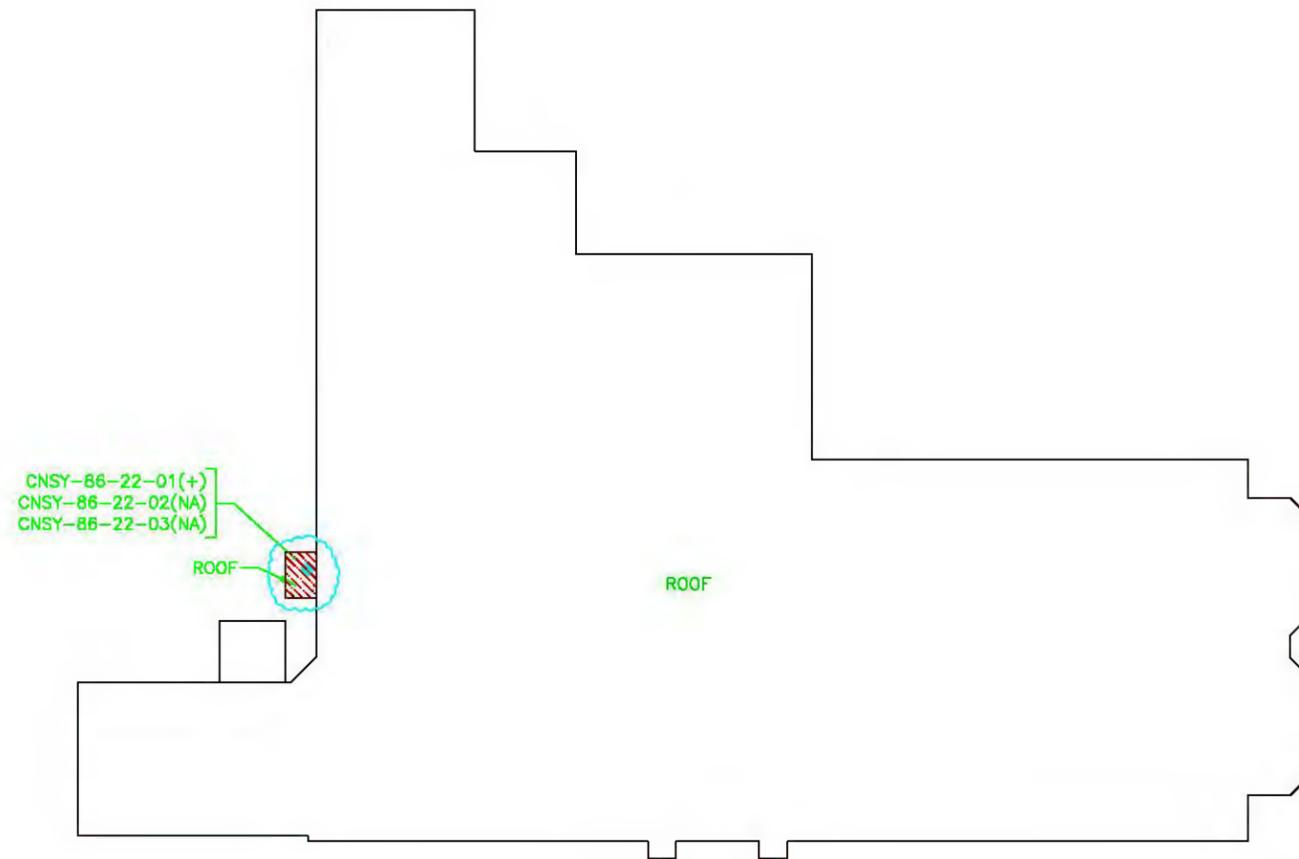
**TYPICAL CAPE SAMPLE I.D. No.**



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROV	CAPE ENVIRONMENTAL MANAGEMENT INC. ATLANTA
SOUTHERN DIVISION CHARLESTON, S.C.					ATLANTA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC BUILDING 86 - FLOOR PLAN (FLOORS AND WALLS)					DATE
SEAL AREA	ED FOR COMMANDER, NAVFAC	APPROVED	DATE	OFFICER IN CHARGE	DATE
CODE ID No.	SIZE	B			
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PROJ. No. 00008.008.000					
SPEC. NO. N/A					
CONSTRN. CNTR. NO. N62467-98-0-1012					
NAVFAC DRAWING NO. N/A					
SHEET 2 OF 8					
86ASB-2					







**BUILDING 86 – ROOF PLAN**

SCALE: 1/32" = 1'-0"



**LEGEND**

DAMAGED ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED – ROOFS

-  DAMAGED ASBESTOS-CONTAINING ROOFING MATERIAL
-  LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL

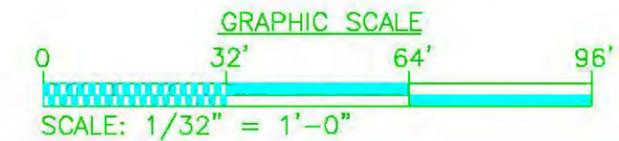
**SYMBOLS**

-  LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

**TYPICAL CAPE SAMPLE I.D. No.**

CNSY- 86 -1-01(+)

- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- SAMPLE I.D. No.
- HOMOGENEOUS AREA No.
- BUILDING NUMBER
- CHARLESTON NAVAL SHIPYARD



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	REV. DESCRIPTION	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	DATE APPROVD	DIRK
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	PREP BY	DIR CERIOS
BUILDING 86 – ROOF PLAN	DATE	SUPV. PERFORMANCE ENGR
(ROOFING MATERIALS)	DATE	SUBMITTED BY (FIRM MEMBER-TITLE)
APPROVED	DATE	EDC
SEAL AREA	DATE	BR 110
ED FOR COMMANDER, NAVFAC	DATE	PFE
APPROVED	DATE	DIR
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PRL. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO. N62487-98-0-1012		
NAVFAC DRAWING NO. N/A		
SHEET 8 OF 8		
86ASB-5		

## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged 9"x9" floor tile and mastic, white	100A	YES



HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged 9"x9" floor tile and mastic, green	A1	YES



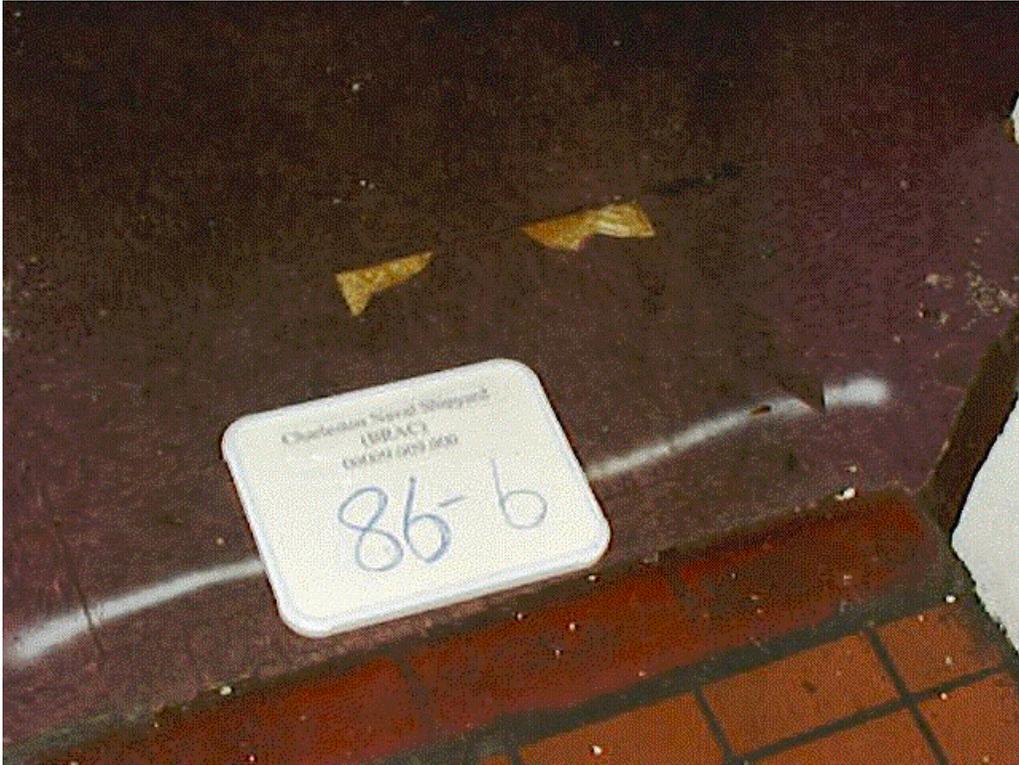
HA #	Material Description	Material Location	ACM (YES/NO)
3	Damaged 9"x9" floor tile and mastic, tan	C3	YES



HA #	Material Description	Material Location	ACM (YES/NO)
4	Damaged 12"x12" floor tile and mastic, brown	102	YES



HA #	Material Description	Material Location	ACM (YES/NO)
5	Damaged 12"x12" floor tile and mastic, white w/ black spots	B1, C5	YES



HA #	Material Description	Material Location	ACM (YES/NO)
6	Damaged 12"x12" floor tile and mastic, brick red	100A, 103	NO



HA #	Material Description	Material Location	ACM (YES/NO)
7	Damaged 12"x12" floor tile and mastic, green w/ white streaks	A3	YES



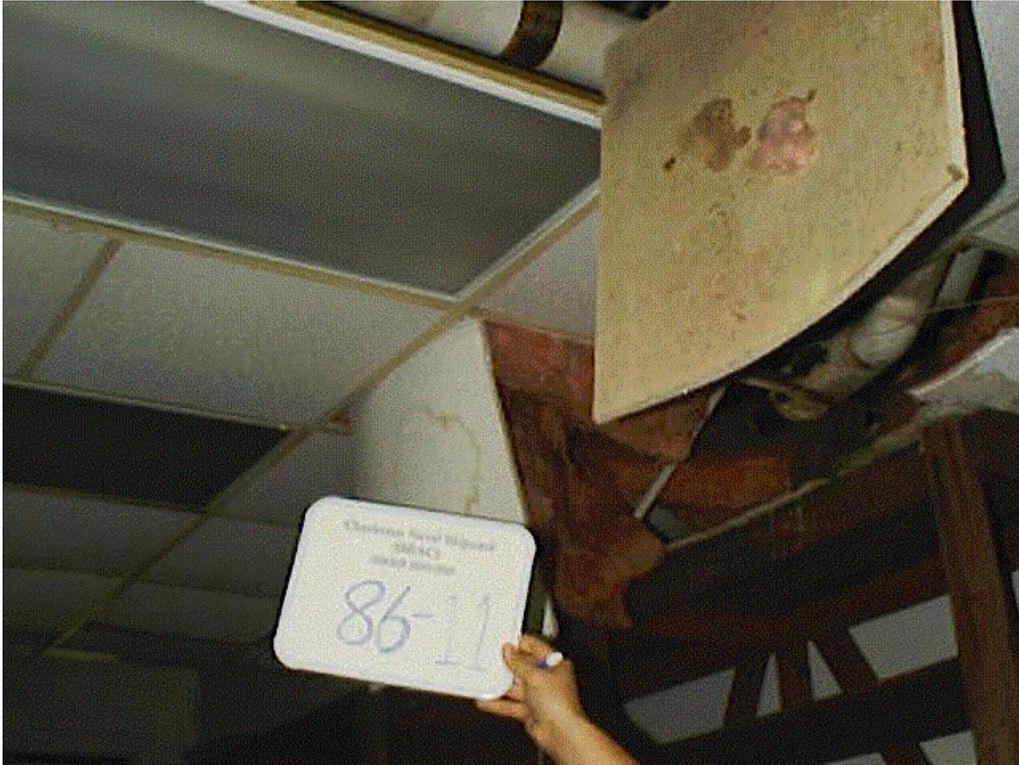
HA #	Material Description	Material Location	ACM (YES/NO)
8	Damaged joint compound associated with gypsum wallboard	A3, 102	YES



HA #	Material Description	Material Location	ACM (YES/NO)
9	Light fixture insulation	A2, 104	YES



HA #	Material Description	Material Location	ACM (YES/NO)
10	1'x1' ceiling tile, grooved	C1, C2, C4, 115-117, 101	NO



HA #	Material Description	Material Location	ACM (YES/NO)
11	2'x2' ceiling tile, grooved-pinhole	C3, 117	NO



HA #	Material Description	Material Location	ACM (YES/NO)
12	2'x2' ceiling tile, recessed-rough	101	NO



HA #	Material Description	Material Location	ACM (YES/NO)
13	2'x2' ceiling tile, recessed-grooved-pinhole	102	NO



HA #	Material Description	Material Location	ACM (YES/NO)
14	2'x2' ceiling tile, recessed-pitted-pinhole	121	NO



HA #	Material Description	Material Location	ACM (YES/NO)
15	Damaged joint compound associated with gypsum ceiling	116, C1	YES



HA #	Material Description	Material Location	ACM (YES/NO)
16	Damaged spray- applied ceiling material	100A, 120	YES



HA #	Material Description	Material Location	ACM (YES/NO)
17	Pipe fitting insulation on steam lines	M1	NO



HA #	Material Description	Material Location	ACM (YES/NO)
18	Pipe fitting insulation on domestic lines	M1	NO



HA #	Material Description	Material Location	ACM (YES/NO)
19	Damaged capping insulation on chilled water lines	105	NO



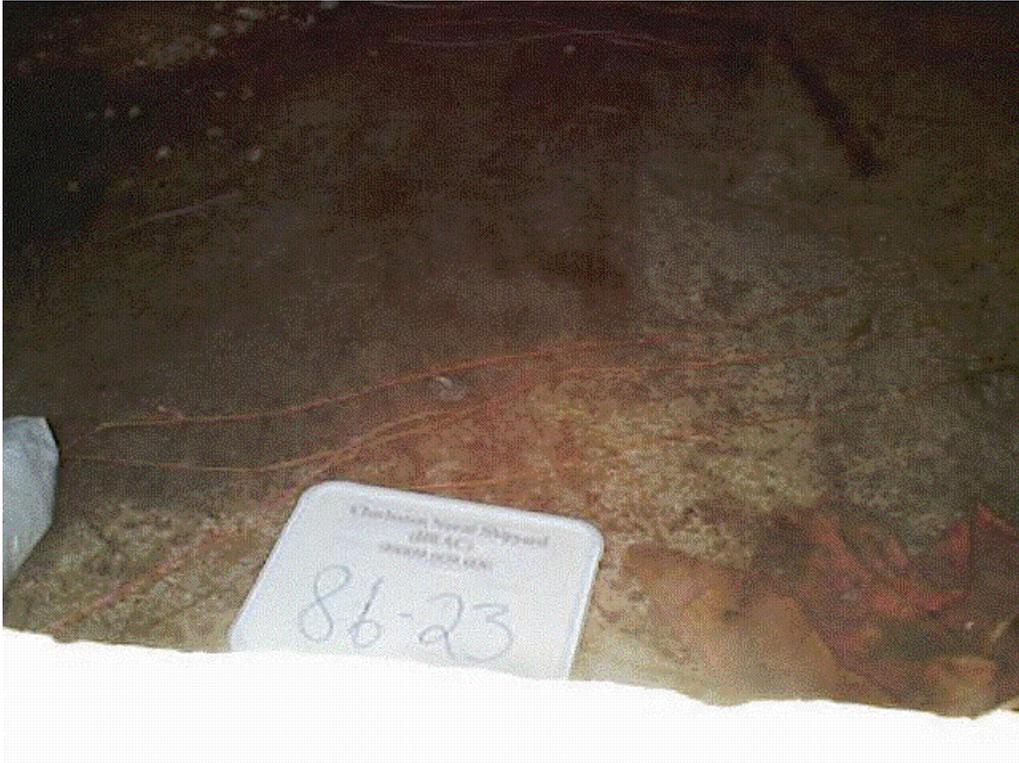
HA #	Material Description	Material Location	ACM (YES/NO)
20	Damaged window putty	Exterior windows	YES



HA #	Material Description	Material Location	ACM (YES/NO)
21	Damaged silver paint	106	NO



HA #	Material Description	Material Location	ACM (YES/NO)
22	Damaged roofing material	Roof	YES



HA #	Material Description	Material Location	ACM (YES/NO)
23	Contaminated soil	Crawlspace	YES

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID		SAMPLE ID	
1	CNSY-86-01-01	16	CNSY-86-06-01
2	CNSY-86-01-02	17	CNSY-86-06-02
3	CNSY-86-01-03	18	CNSY-86-06-03
4	CNSY-86-02-01	19	CNSY-86-07-01
5	CNSY-86-02-02	20	CNSY-86-07-02
6	CNSY-86-02-03	21	CNSY-86-07-03
7	CNSY-86-03-01	22	CNSY-86-08-01
8	CNSY-86-03-02	23	CNSY-86-08-02
9	CNSY-86-03-03	24	CNSY-86-08-03
10	CNSY-86-04-01	25	CNSY-86-09-01
11	CNSY-86-04-02	26	CNSY-86-09-02
12	CNSY-86-04-03	27	CNSY-86-09-03
13	CNSY-86-05-01	28	CNSY-86-10-01
14	CNSY-86-05-02	29	CNSY-86-10-02
15	CNSY-86-05-03	30	CNSY-86-10-03

SPECIAL INSTRUCTIONS:	

RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

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INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID		SAMPLE ID	
1	CNSY-86-11-01	16	CNSY-86-16-01
2	CNSY-86-11-02	17	CNSY-86-16-02
3	CNSY-86-11-03	18	CNSY-86-16-03
4	CNSY-86-12-01	19	CNSY-86-17-01
5	CNSY-86-12-02	20	CNSY-86-17-02
6	CNSY-86-12-03	21	CNSY-86-17-03
7	CNSY-86-13-01	22	CNSY-86-18-01
8	CNSY-86-13-02	23	CNSY-86-18-02
9	CNSY-86-13-03	24	CNSY-86-18-03
10	CNSY-86-14-01	25	CNSY-86-19-01
11	CNSY-86-14-02	26	CNSY-86-19-02
12	CNSY-86-14-03	27	CNSY-86-19-03
13	CNSY-86-15-01	28	CNSY-86-20-01
14	CNSY-86-15-02	29	CNSY-86-20-02
15	CNSY-86-15-03	30	CNSY-86-20-03

SPECIAL INSTRUCTIONS:	

RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

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TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID	SAMPLE ID
1 CNSY-86-21-01	16
2 CNSY-86-21-02	17
3 CNSY-86-21-03	18
4 CNSY-86-22-01	19
5 CNSY-86-22-02	20
6 CNSY-86-22-03	21
7 CNSY-86-23-01	22
8 CNSY-86-23-02	23
9 CNSY-86-23-03	24
10 CNSY-86-23-04	25
11 CNSY-86-23-05	26
12 CNSY-86-23-06	27
13 CNSY-86-23-07	28
14	29
15	30

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/2/00

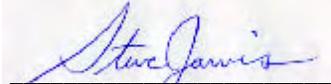
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 13

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7213-1	CNSY-86-01-01		1+2 (of 3)	1. TAN SEMI-HARD MASTIC; 2. TAN AND WHITE HARD RESILIENT TO GRANULAR (FT)			1 CELLULOSE	15 AGGREGATES 5 MASTIC 79 OTHER
7213-2	CNSY-86-01-01		3 (of 3)	BLACK SOFT BITUMINOUS WITH FIBERS		7 CHRYSOTILE		80 BITUMEN 13 OTHER
7214	CNSY-86-01-02		1+2 (of 3)	1. TAN SEMI-HARD MASTIC; 2. TAN AND WHITE HARD RESILIENT TO GRANULAR (FT)	LAYER 3: NOT ANALYZED		1 CELLULOSE	20 AGGREGATES 5 MASTIC 74 OTHER
7215	CNSY-86-01-03		1+2 (of 3)	1. TAN SEMI-HARD MASTIC; 2. TAN AND WHITE HARD RESILIENT TO GRANULAR (FT)	LAYER 3: NOT ANALYZED		1 CELLULOSE	20 AGGREGATES 5 MASTIC 74 OTHER
7216-1	CNSY-86-02-01		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)		15 CHRYSOTILE	2 CELLULOSE	20 AGGREGATES 63 OTHER
7216-2	CNSY-86-02-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS			10 CELLULOSE	85 BITUMEN 5 OTHER

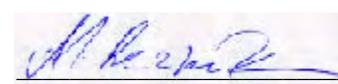
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
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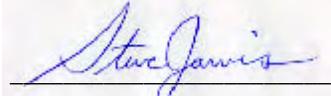
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 13

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7217	CNSY-86-02-02		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED		8 CELLULOSE	80 BITUMEN 12 OTHER
7218	CNSY-86-02-03		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED		5 CELLULOSE	90 BITUMEN 5 OTHER
7219-1	CNSY-86-03-01		1 (of 2)	BEIGE HARD RESILIENT TO GRANULAR (FT)		<b>3 CHRYSOTILE</b>		30 AGGREGATES 67 OTHER
7219-2	CNSY-86-03-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS			3 CELLULOSE	90 BITUMEN 7 OTHER
7220	CNSY-86-03-02		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED		5 CELLULOSE	85 BITUMEN 10 OTHER
7221	CNSY-86-03-03		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED		5 CELLULOSE	85 BITUMEN 10 OTHER
7222-1	CNSY-86-04-01		1 (of 2)	GRAY HARD RESILIENT TO GRANULAR (FT)		<b>&lt;1 CHRYSOTILE</b>	3 CELLULOSE	35 AGGREGATES 62 OTHER

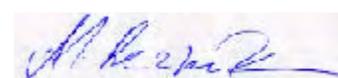
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 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
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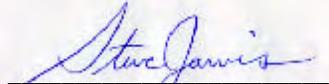
REPORT ISSUED: 9/12/00  
 PAGE: 3 of 13

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7222-2	CNSY-86-04-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		10 CHRYSOTILE		80 BITUMEN 10 OTHER
7223	CNSY-86-04-02		1 (of 2)	GRAY HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED	2 CHRYSOTILE	3 CELLULOSE	35 AGGREGATES 60 OTHER
7224	CNSY-86-04-03			NOT ANALYZED	NOT ANALYZED			
7225-1	CNSY-86-05-01		1 (of 2)	BEIGE/WHITE HARD RESILIENT TO GRANULAR (FT)		<1 CHRYSOTILE	1 CELLULOSE	30 AGGREGATES 69 OTHER
7225-2	CNSY-86-05-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		8 CHRYSOTILE		80 BITUMEN 12 OTHER
7226	CNSY-86-05-02		1 (of 2)	BEIGE/WHITE HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED	<1 CHRYSOTILE	1 CELLULOSE	35 AGGREGATES 64 OTHER
7227	CNSY-86-05-03		1 (of 2)	BEIGE/WHITE HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED	<1 CHRYSOTILE		35 AGGREGATES 65 OTHER

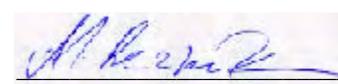
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
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LAB JOB NO: B0114  
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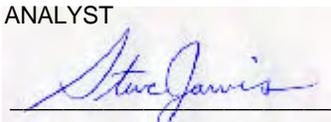
REPORT ISSUED: 9/12/00  
 PAGE: 4 of 13

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7228	CNSY-86-06-01		1 (of 1)	PURPLE HARD RESILIENT TO GRANULAR (FT) WITH GLUE			1 CELLULOSE	30 AGGREGATES 5 MASTIC 64 OTHER
7229	CNSY-86-06-02		1 (of 1)	PURPLE HARD RESILIENT TO GRANULAR (FT) WITH GLUE			1 CELLULOSE	30 AGGREGATES 5 MASTIC 64 OTHER
7230	CNSY-86-06-03		1 (of 1)	ORANGE HARD RESILIENT TO GRANULAR (FT) WITH GRAY AND YELLOW GLUE			2 CELLULOSE 1 GLASS FIBERS	25 AGGREGATES 5 MASTIC 67 OTHER
7231	CNSY-86-07-01		1 (of 1)	GREEN HARD RESILIENT TO GRANULAR (FT)		<b>2 CHRYSOTILE</b>	5 WOLLASTONITE	30 AGGREGATES 63 OTHER
7232	CNSY-86-07-02		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED		4 CELLULOSE	85 BITUMEN 11 OTHER
7233	CNSY-86-07-03		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED		3 CELLULOSE	85 BITUMEN 12 OTHER

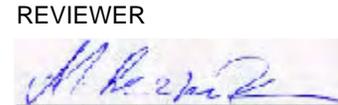
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 PAGE: 5 of 13

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7234	CNSY-86-08-01		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C); 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS	JOINT COMPOUND (65% OF THE SAMPLE VOLUME) CONTAINS 15% CHRYSOTILE	10 CHRYSOTILE	7 CELLULOSE	10 MICA/ VERMICULITE 73 OTHER
7235	CNSY-86-08-02		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS	3% CHRYSOTILE IN JOINT COMPOUND	<1 CHRYSOTILE	30 CELLULOSE	3 MICA/ VERMICULITE 67 OTHER
7236	CNSY-86-08-03		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			35 CELLULOSE	3 MICA/ VERMICULITE 62 OTHER
7237	CNSY-86-09-01		1 (of 1)	GRAY SOFT FIBROUS WITH ALUMINUM FOIL		35 CHRYSOTILE	40 CELLULOSE	20 METAL 5 OTHER
7238	CNSY-86-09-02			NOT ANALYZED	NOT ANALYZED			

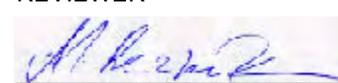
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 PAGE: 6 of 13

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7239	<b>CNSY-86-09-03</b>			NOT ANALYZED	NOT ANALYZED			
7240	<b>CNSY-86-10-01</b>		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH PAINT			80 GLASS FIBERS	20 OTHER
7241	<b>CNSY-86-10-02</b>		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH PAINT			1 CELLULOSE 80 GLASS FIBERS	19 OTHER
7242	<b>CNSY-86-10-03</b>		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH PAINT			1 CELLULOSE 85 GLASS FIBERS	14 OTHER
7243	<b>CNSY-86-11-01</b>		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS TO GRANULAR			30 CELLULOSE 35 GLASS FIBERS	25 PERLITE 10 OTHER
7244	<b>CNSY-86-11-02</b>		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7245	<b>CNSY-86-11-03</b>		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7246	<b>CNSY-86-12-01</b>		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH PAINT			1 CELLULOSE 85 GLASS FIBERS	14 OTHER

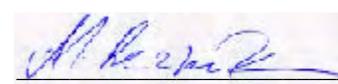
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-1  
 DATE RECEIVED: 5/30/00  
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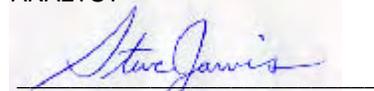
REPORT ISSUED: 9/12/00  
 PAGE: 7 of 13

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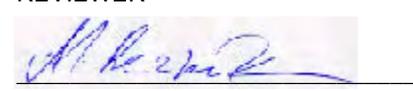
SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7247	CNSY-86-12-02		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH PAINT			2 CELLULOSE 85 GLASS FIBERS	13 OTHER
7248	CNSY-86-12-03		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH PAINT			1 CELLULOSE 85 GLASS FIBERS	14 OTHER
7249	CNSY-86-13-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 35 GLASS FIBERS	20 PERLITE 10 OTHER
7250	CNSY-86-13-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 30 GLASS FIBERS	25 PERLITE 10 OTHER
7251	CNSY-86-13-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 35 GLASS FIBERS	25 PERLITE 10 OTHER
7252	CNSY-86-14-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7253	CNSY-86-14-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER

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ANALYST

  
 STEVE JARVIS

REVIEWER

  
 ALEKSEY REZNIK

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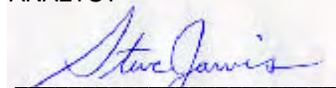
REPORT ISSUED: 9/12/00  
 PAGE: 8 of 13

**RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7254	<b>CNSY-86-14-03</b>		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7255-1	<b>CNSY-86-15-01</b>		1 (of 3)	BROWN HARD SILTY TO FIBROUS	LAYER IS 10% OF THE SAMPLE VOLUME	<b>20 CHRYSOTILE</b>		80 OTHER
7255-2	<b>CNSY-86-15-01</b>		2+3 (of 3)	2. GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			25 CELLULOSE	75 OTHER
7256-1	<b>CNSY-86-15-02</b>		2 (of 4)	BROWN HARD BRITTLE	LAYER 1: NOT ANALYZED		10 WOLLASTONITE	80 MASTIC 10 OTHER
7256-2	<b>CNSY-86-15-02</b>		3+4 (of 4)	3. GRAY SOFT FIBROUS; 4. LIGHT GRAY HARD SILTY WITH FIBERS			35 CELLULOSE	65 OTHER
7257	<b>CNSY-86-15-03</b>		2+3 (of 3)	2. GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS	LAYER 1: NOT ANALYZED		40 CELLULOSE	60 OTHER

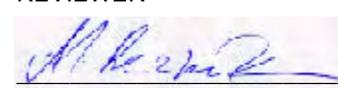
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
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7258	CNSY-86-16-01		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS	3% CHRYSOTILE IN JOINT COMPOUND	<1 CHRYSOTILE	35 CELLULOSE	7 MICA/ VERMICULITE 58 OTHER
7259	CNSY-86-16-02		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS	3% CHRYSOTILE IN JOINT COMPOUND	<1 CHRYSOTILE	25 CELLULOSE	10 MICA/ VERMICULITE 65 OTHER
7260	CNSY-86-16-03		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS	3% CHRYSOTILE IN JOINT COMPOUND	<1 CHRYSOTILE	35 CELLULOSE	10 MICA/ VERMICULITE 55 OTHER
7261	CNSY-86-17-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			30 CELLULOSE 20 GLASS FIBERS	50 OTHER
7262	CNSY-86-17-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			35 CELLULOSE 10 GLASS FIBERS	55 OTHER

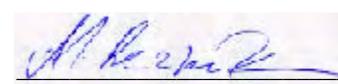
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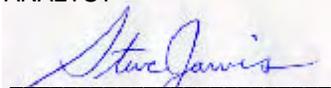
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 PAGE: 10 of 13

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7263	CNSY-86-17-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			30 CELLULOSE 10 GLASS FIBERS	60 OTHER
7264	CNSY-86-18-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			35 CELLULOSE 15 GLASS FIBERS	50 OTHER
7265	CNSY-86-18-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			30 CELLULOSE 10 GLASS FIBERS	60 OTHER
7266	CNSY-86-18-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			30 CELLULOSE 10 GLASS FIBERS	60 OTHER
7267	CNSY-86-19-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			15 CELLULOSE 50 GLASS FIBERS	35 OTHER
7268	CNSY-86-19-02		1 (of 1)	WHITE SOFT POWDERY TO WOVEN FIBROUS WITH YELLOW FIBERS AND PAINT			80 CELLULOSE 5 GLASS FIBERS	15 OTHER
7269	CNSY-86-19-03		1 (of 1)	GRAY SOFT POWDERY TO WOVEN FIBROUS WITH YELLOW FIBERS AND PAINT			15 CELLULOSE 35 GLASS FIBERS	50 OTHER

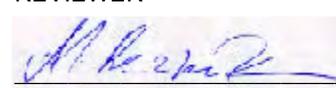
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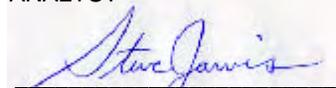
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 PERCENTAGE (BY VISUAL ESTIMATE)**

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7270	CNSY-86-20-01		1 (of 1)	GRAY AND TAN HARD SILTY WITH PAINT			2 CELLULOSE	98 OTHER
7271	CNSY-86-20-02		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 WOLLASTONITE 2 TALC	97 OTHER
7272	CNSY-86-20-03		1 (of 1)	GRAY HARD SILTY WITH PAINT		3 CHRYSOTILE	1 WOLLASTONITE 1 TALC	95 OTHER
7273	CNSY-86-21-01		1 (of 1)	MULTILAYERED GRAY AND GREEN LAYERS OF PAINT			2 CELLULOSE	98 OTHER
7274	CNSY-86-21-02		1 (of 1)	MULTILAYERED GRAY AND GREEN LAYERS OF PAINT			1 CELLULOSE	99 OTHER
7275	CNSY-86-21-03		1 (of 1)	MULTILAYERED GRAY AND GREEN LAYERS OF PAINT			1 CELLULOSE	99 OTHER
7276	CNSY-86-22-01		1 (of 1)	BLACK HARD BITUMINOUS TO FIBROUS		30 CHRYSOTILE	5 CELLULOSE	55 BITUMEN 10 OTHER
7277	CNSY-86-22-02			NOT ANALYZED	NOT ANALYZED			

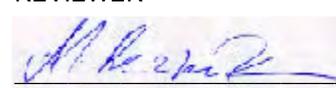
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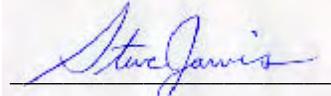
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7278	<b>CNSY-86-22-03</b>			NOT ANALYZED	NOT ANALYZED			
7279	<b>CNSY-86-23-01</b>		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS AND WHITE DEBRIS		<b>5 CHRYSOTILE</b> <b>3 AMOSITE</b>	1 CELLULOSE 1 GLASS FIBERS 1 WOLLASTONITE	30 AGGREGATES 59 OTHER
7280	<b>CNSY-86-23-02</b>		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH TSI DEBRIS		<b>15 CHRYSOTILE</b> <b>7 AMOSITE</b>	1 CELLULOSE 5 GLASS FIBERS 1 WOLLASTONITE	25 AGGREGATES 46 OTHER
7281	<b>CNSY-86-23-03</b>		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH METAL AND TSI DEBRIS		<b>3 CHRYSOTILE</b>	1 CELLULOSE 5 GLASS FIBERS 1 WOLLASTONITE	35 AGGREGATES 20 METAL 35 OTHER
7282	<b>CNSY-86-23-04</b>		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH METAL AND TSI DEBRIS	TSI DEBRIS (20% OF SAMPLE VOLUME) CONTAINS 10% CHRYSOTILE AND 5% AMOSITE	<b>2 CHRYSOTILE</b> <b>1 AMOSITE</b>	1 CELLULOSE 5 GLASS FIBERS 1 WOLLASTONITE	30 AGGREGATES 25 METAL 35 OTHER

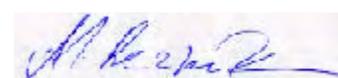
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ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
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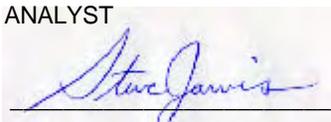
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 PERCENTAGE (BY VISUAL ESTIMATE)**

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7283	CNSY-86-23-05		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL			2 CELLULOSE 3 GLASS FIBERS	30 AGGREGATES 65 OTHER
7284	CNSY-86-23-06		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL			2 CELLULOSE	25 AGGREGATES 73 OTHER
7285	CNSY-86-23-07		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS			1 CELLULOSE 20 GLASS FIBERS	65 AGGREGATES 14 OTHER

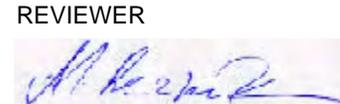
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REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

# **BUILDING 141**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 141**  
**DESCRIPTION: Fire Dept. Storage**

Building 141 is a single-story structure totaling 390 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged 9"x9" asbestos-containing floor tile with non-asbestos containing mastic, grey	100	Misc.	270 SF	Damaged

Legend: Misc. = Miscellaneous

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## **FACILITY NO.: 141**

### **DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

<b>HA#</b>	<b>Material Description</b>	<b>Damage Location</b>	<b>Damage Quantity</b>	<b>Abatement Response Action</b>
1	9"x9" asbestos-containing floor tile with non-asbestos containing mastic, grey	100	270 SF	Remove/replace

*Abatement Comments: None*

### ***Non-Damaged/Friable ACM:***

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 141

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

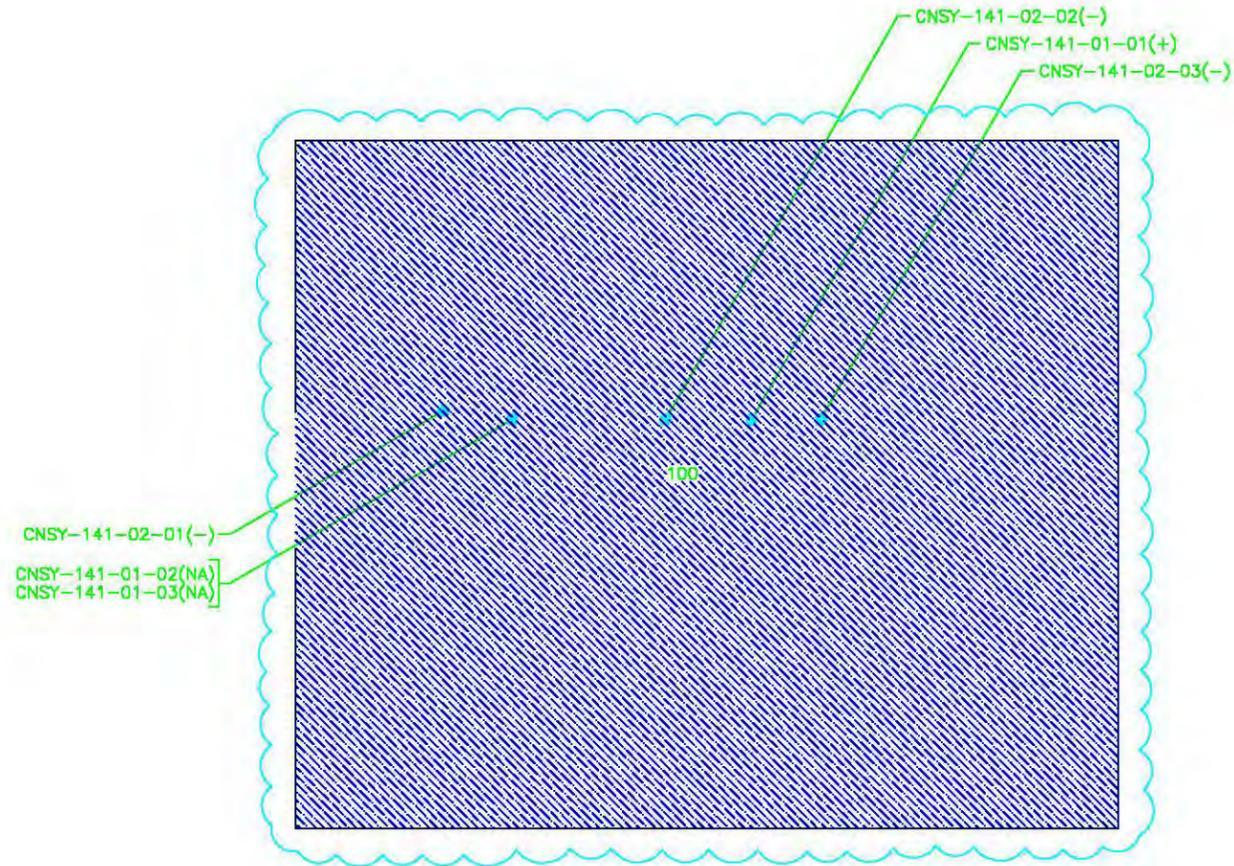
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged 9"x9" floor tile and mastic, grey	100	CAPE/2000	CNSY-141-01-01-QC CNSY-141-01-01 CNSY-141-01-02 CNSY-141-01-03	10% CHR (T), NAD (M) 3% CHR (T), NAD (M) NA (T), NAD (M) NA (T), NAD (M)	Yes
2	Damaged silver paint on piping	100	CAPE/2000	CNSY-141-02-01 CNSY-141-02-02 CNSY-141-02-03	NAD NAD NAD	No

Legend: NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed  
(T) = Floor tile

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 141 - FLOOR PLAN**

SCALE: 1/4" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM) IDENTIFIED

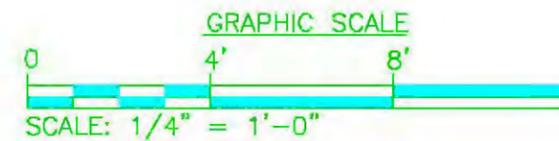
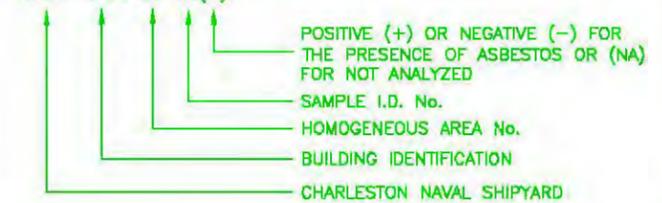
 DAMAGED ASBESTOS-CONTAINING FLOOR COVERING AND NON-ASBESTOS-CONTAINING MASTIC

 LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL

**SYMBOLS**

-  LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

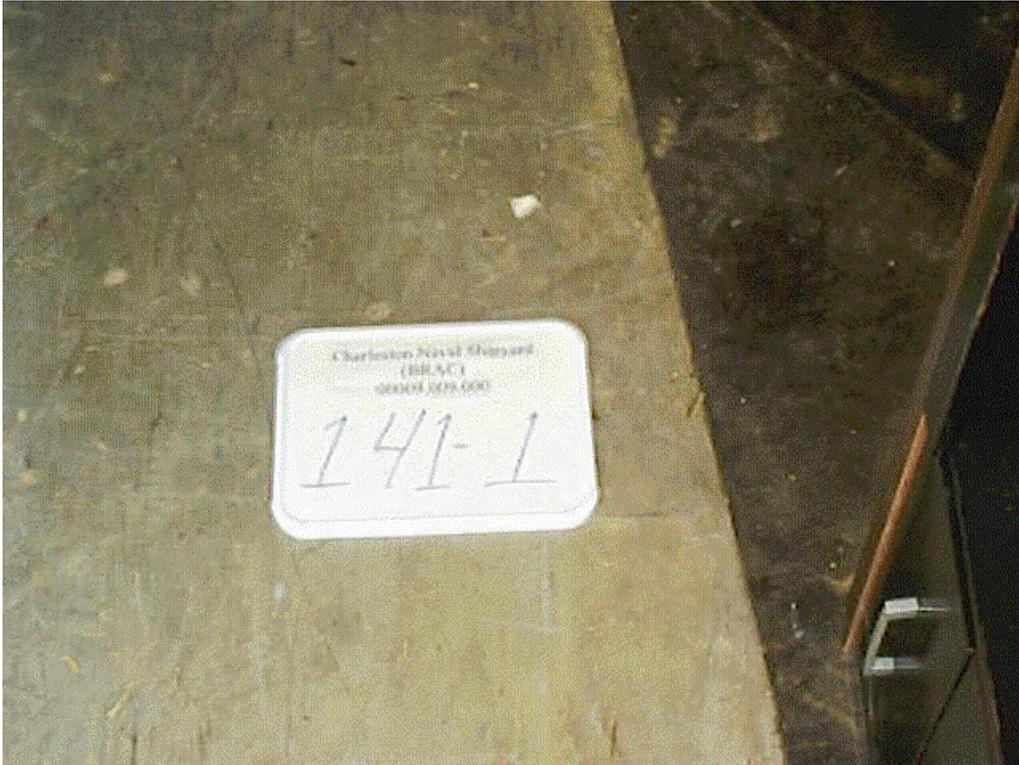
TYPICAL CAPE SAMPLE I.D. No.  
CNSY-141-01-01(+)



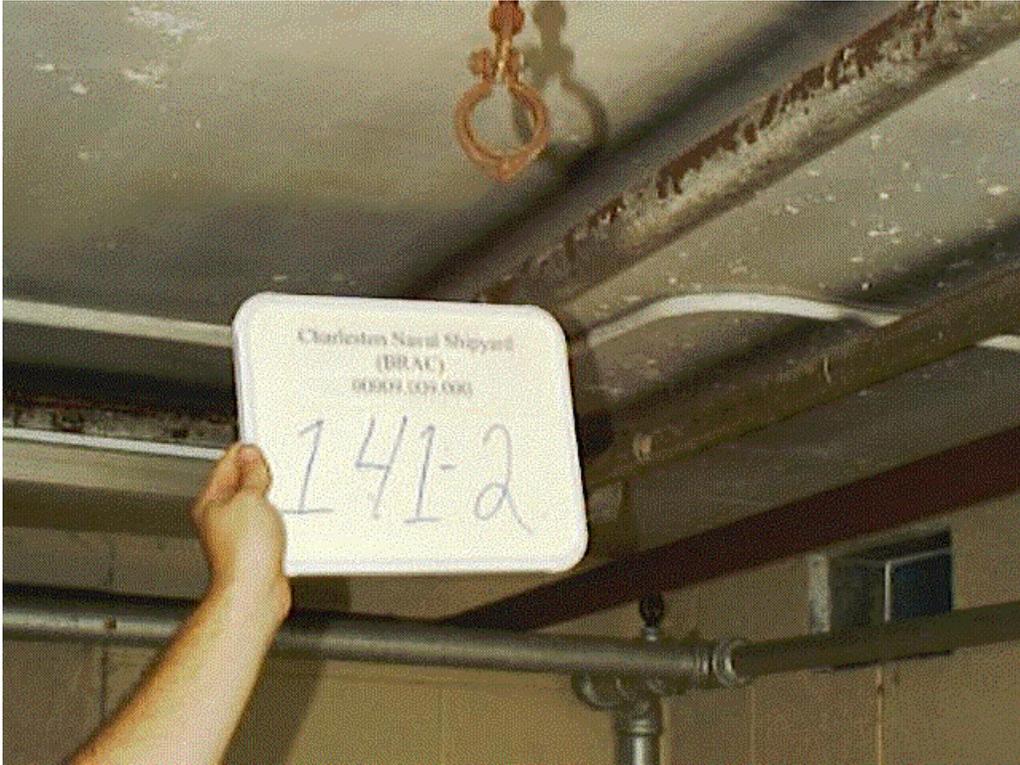
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DR	DR
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	DR CHRIS	DR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	SUPV. PERFORMANCE ENGR	SUPV. PERFORMANCE ENGR
BUILDING 141 - FLOOR PLAN	SUBMITTED BY (FORM NUMBER-TITLE)	DATE
APPROVED	DATE	OFFICER IN CHARGE
SEAL AREA	DATE	OFFICER IN CHARGE
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
NA62407-98-0-1012		
NAVJAC DRAWING NO.		
N/A		
SHEET 1	OF 1	
141ASB-1		

## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged 9"x9" floor tile and mastic, grey	100	YES



HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged silver paint	100	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>
	3 DAYS <input type="checkbox"/>
	5 DAYS <input type="checkbox"/>
	NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/>	STOP POSITIVE <input type="checkbox"/>

SAMPLE ID	SAMPLE ID
1 CNSY-141-01-01	16
2 CNSY-141-01-02	17
3 CNSY-141-01-03	18
4 CNSY-141-02-01	19
5 CNSY-141-02-02	20
6 CNSY-141-02-03	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-1  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/5/00

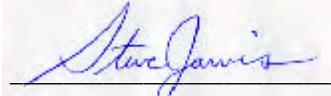
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 1

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7286-1	CNSY-141-01-01		1 (of 2)	GRAY HARD RESILIENT TO GRANULAR (FT)		3 CHRYSOTILE	2 WOLLASTONITE	25 AGGREGATES 70 OTHER
7286-2	CNSY-141-01-01		2 (of 2)	YELLOW SEMI-HARD SILTY WITH PAINT			3 CELLULOSE	60 MASTIC 37 OTHER
7287	CNSY-141-01-02		2 (of 2)	YELLOW SEMI-HARD SILTY WITH TRACES OF PAINT	LAYER 1: NOT ANALYZED		3 CELLULOSE	90 MASTIC 7 OTHER
7288	CNSY-141-01-03		2 (of 2)	YELLOW SEMI-HARD SILTY	LAYER 1: NOT ANALYZED		5 CELLULOSE	90 MASTIC 5 OTHER
7289	CNSY-141-02-01		1 (of 1)	SILVER HARD PAINT				100 OTHER
7290	CNSY-141-02-02		1 (of 1)	SILVER HARD PAINT				100 OTHER
7291	CNSY-141-02-03		1 (of 1)	SILVER HARD PAINT				100 OTHER

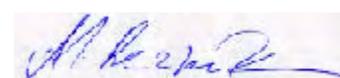
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/5/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

# **BUILDING 180**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 180**  
**DESCRIPTION: Sterret Hall**

Building 180 is a two-story structure totaling 37,206 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in August 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged 9"x9" asbestos containing floor tile and mastic, orange w/ brown smudges	S1, S2, 206	Misc	100 SF	Damaged
13	Contaminated soil	Crawlspace	Misc	5,600 SF	Damaged

Legend: Misc = Miscellaneous

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**FACILITY NO.: 180**

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
1	Damaged 9"x9" asbestos containing floor tile and mastic, orange w/ brown smudges	S1, S2, 206	100 SF	Repair
13	Contaminated soil	Crawlspace	5,600 SF	Remove

*Abatement Comments: HA #13 - Very little natural ventilation in crawlspace  
Extreme tight fit to enter  
Approximately 4 ft of head clearance*

***Non-Damaged/Friable ACM:***

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 180

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged 9"x 9" floor tile and mastic, orange w/ brown smudges	S1, S2, 206	CAPE 2000	*CNSY-180-01-01 CNSY-180-01-02 CNSY-180-01-03	10% (T), <1% CHR (M) NA (T), NAD (M) NA (T), NAD (M)	Yes
2	Damaged joint compound with associated gypsum wallboard	Storage 3, Office 30	CAPE 2000	CNSY-180-02-01-QC CNSY-180-02-01 CNSY-180-02-02 CNSY-180-02-03 CNSY-180-02-04	NAD NAD NAD NAD NAD	No
3	Damaged residual base cove mastic	Closet 1, various rooms (2 <sup>nd</sup> floor)	CAPE 2000	CNSY-180-03-01 CNSY-180-03-02 CNSY-180-03-02	NAD NAD NAD	No
4	2' x 2' ceiling tile, recessed, grooved	Office 30, Office 31	CAPE 2000	CNSY-180-04-01 CNSY-180-04-02 CNSY-180-04-03	NAD NAD NAD	No
5	Damaged plaster ceiling	Storage 4	CAPE 2000	CNSY-180-05-01-QC CNSY-180-05-01 CNSY-180-05-02 CNSY-180-05-03	NAD NAD NAD NAD	No
6	2' x 2' ceiling tile, pinhole, fissured	Lobby	CAPE 2000	CNSY-180-06-01 CNSY-180-06-02 CNSY-180-06-03	NAD NAD NAD	No
7	Damaged window putty	Exterior windows	CAPE 2000	CNSY-180-07-01 CNSY-180-07-02 CNSY-180-07-03	NAD NAD NAD	No
8	Pipe fitting insulation on domestic water lines	Storage 2, Gymnasium	CAPE/ 2000	*CNSY-180-08-01-QC *CNSY-180-08-01 CNSY-180-08-02 CNSY-180-08-03	<0.25 % CHR Trace CHR, Trace AMO NAD NAD	No
9	Pipe insulation on steam lines	Auditorium, Storage 5, Storage 2, Lobby, Men's Room	CAPE/ 2000	CNSY-180-09-01-QC CNSY-180-09-01 CNSY-180-09-02 CNSY-180-09-03 *CNSY-180-09-04	NAD NAD NAD NAD 0.25% CHR, 0.25% AMO	No

\* The mastic layer of this sample is considered to be asbestos-contaminated.

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
10	1' x 1' ceiling tile	Office 25, Office 26	CAPE/ 2000	CNSY-180-10-01 CNSY-180-10-02 CNSY-180-10-03	NAD NAD NAD	No
11	Pipe fitting insulation on steam lines	Gymnasium	CAPE/ 2000	CNSY-180-11-01 CNSY-180-11-02 CNSY-180-11-03	NAD NAD NAD	No
12	Thermal system insulation debris	Exterior (N.W. side)	CAPE/ 2000	CNSY-180-12-01-QC CNSY-180-12-01 CNSY-180-12-02 CNSY-180-12-03	NAD NAD NAD NAD	No
13	Contaminated soil	Crawlspace	CAPE/ 2000	CNSY-180-13-01 CNSY-180-13-02 CNSY-180-13-03 CNSY-180-13-04 CNSY-180-13-05 CNSY-180-13-06 CNSY-180-13-07	NAD NAD NAD NAD 3% CHR <1% CHR NAD	Yes

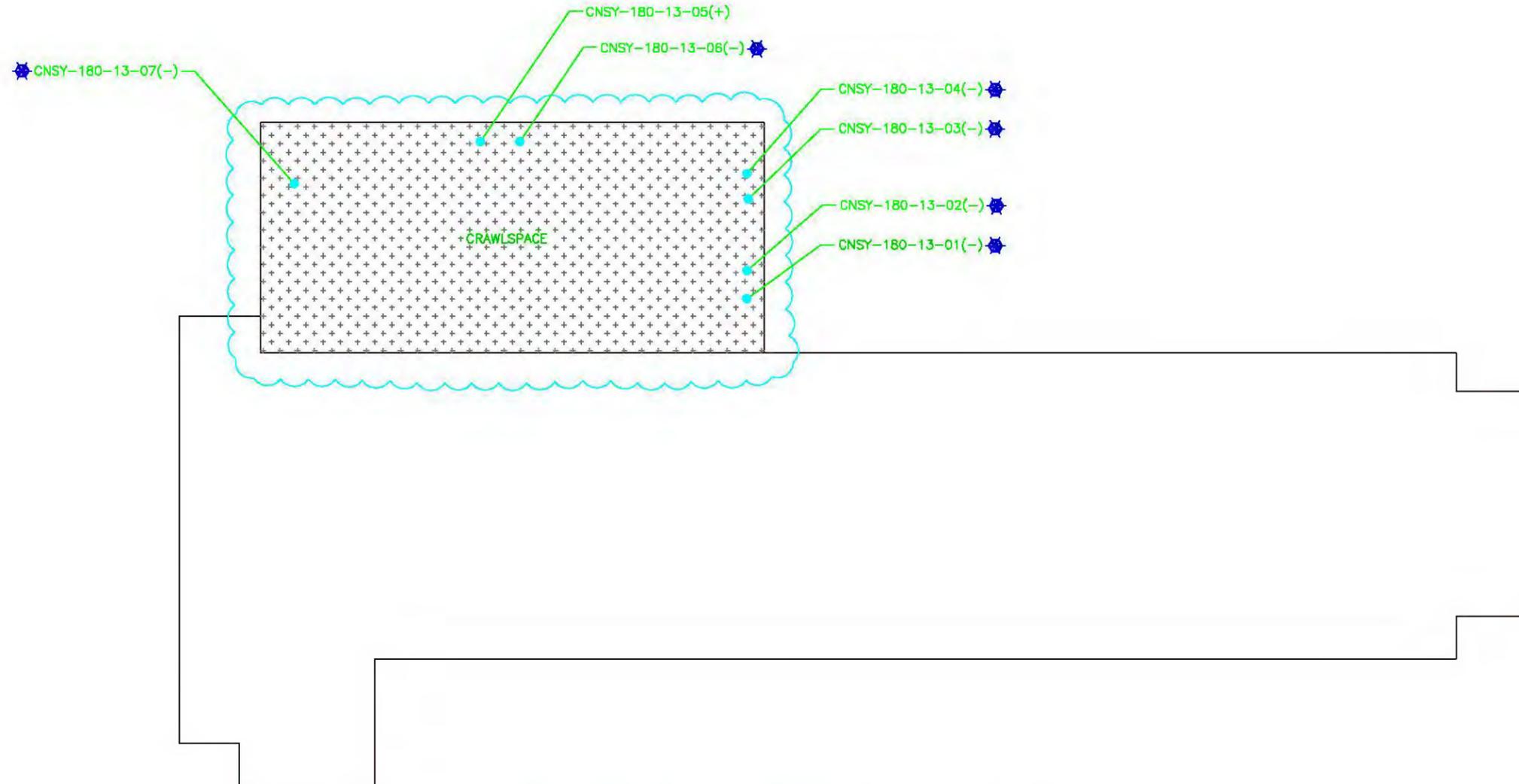
Legend: NAD = No Asbestos Detected CHR = Chrysotile NA = Not Analyzed AMO = Amosite  
(T) = Floor tile (M) = Mastic

\* This sample was analyzed by "PLM Point Counting Method"

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 180 - CRAWLSPACE PLAN**

SCALE: 1/32" = 1'-0"



**LEGEND**

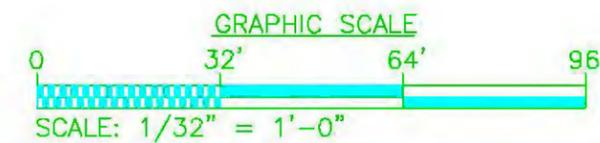
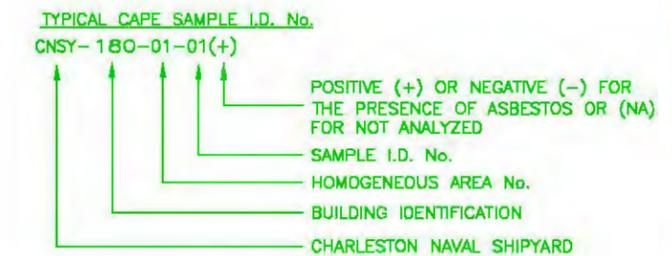
FRIABLE ASBESTOS-CONTAINING MATERIAL (ACM) IDENTIFIED - CRAWLSPACE

CONTAMINATED SOIL

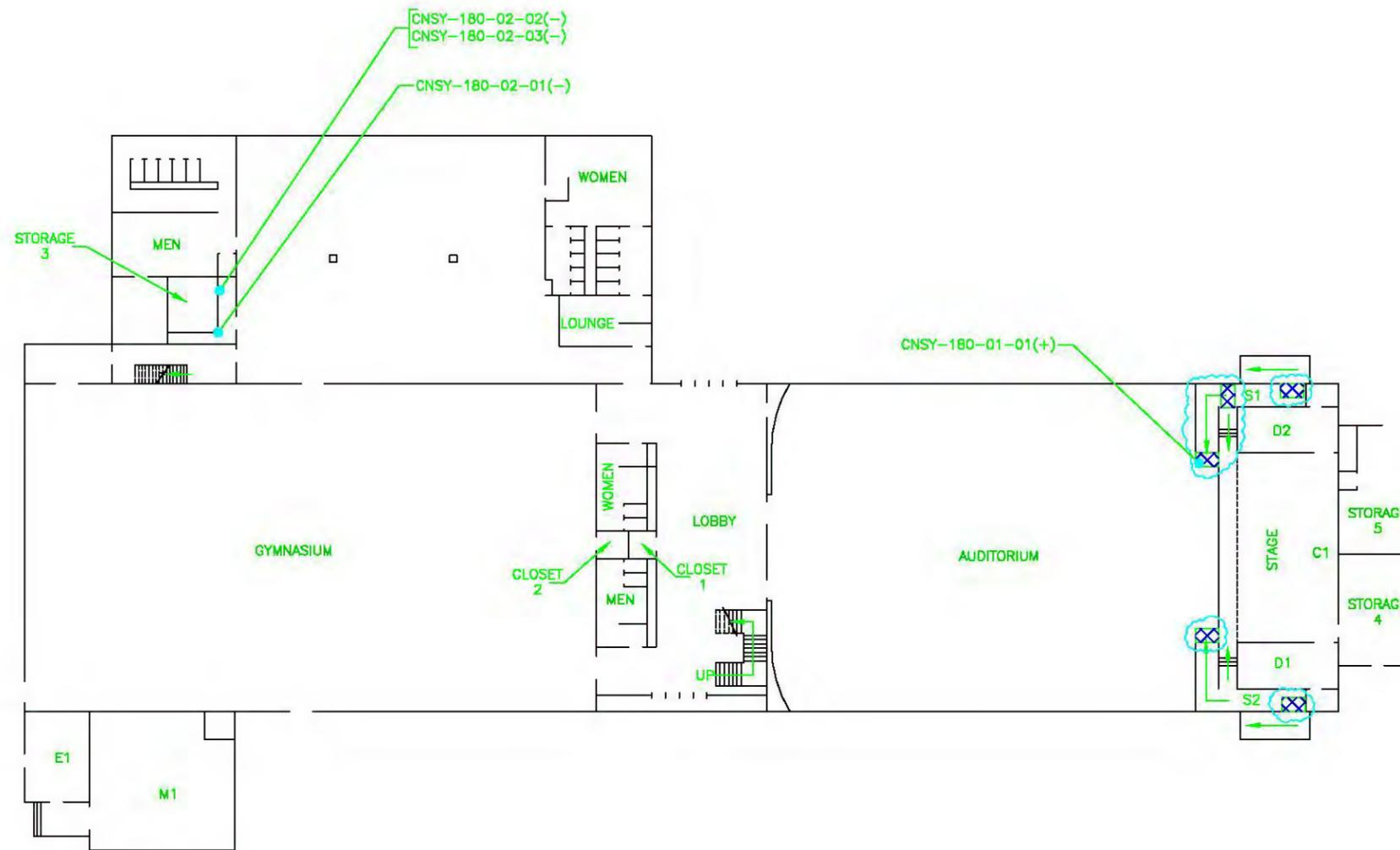
LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL.

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- THIS SAMPLE'S ANALYSIS RESULT IS NEGATIVE; HOWEVER, AT LEAST ONE OTHER SAMPLE'S ANALYSIS RESULT OF SAME HOMOGENEOUS MATERIAL IS POSITIVE, THEREFORE ENTIRE HOMOGENEOUS MATERIAL IS CONSIDERED POSITIVE FOR ASBESTOS CONTENT.



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REVISIONS	DATE	APPROVED
SOUTHERN DIVISION	CHARLESTON, S.C.	REV. DESCRIPTION	DATE	BY
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	PREP BY	DATE	APPROVED
BUILDING 180 - CRAWLSPACE PLAN		DATE	DATE	OFFICER IN CHARGE
SEAL AREA		DATE	DATE	DATE
CODE ID No.	SIZE	CAPE ENVIRONMENTAL MANAGEMENT INC.	ATLANTA	GEORGIA
FED DRAWING NO.		TSBR		DIRK
STA. PROJ. NO.		DIR	CRIS	DIR
CAPE PRL No. 00008.008.000		SUPV. PERFORMANCE ENGR		
SPEC. NO. N/A		SUBMITTED BY (FIRM MEMBER-TITLE)		DATE
CONSTRN. CNTR. NO. N62467-98-0-1012		ED	BR 110	DIR
NAVFAC DRAWING NO. N/A				
SHEET 1 OF 7				
180ASB-1				



**BUILDING 180 - FIRST FLOOR PLAN**

SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED - FLOORS AND WALLS



FLOOR COVERING AND MASTIC (+)



LOCATION OF DAMAGED ASBESTOS-CONTAINING MATERIAL.

**NOTE**

NO FRIABLE ASBESTOS-CONTAINING ROOFING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**NOTE**

NO FRIABLE ASBESTOS-CONTAINING WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

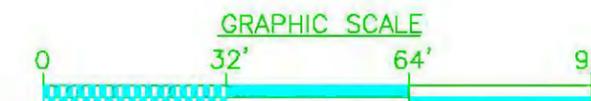
**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL

**TYPICAL CAPE SAMPLE I.D. No.**

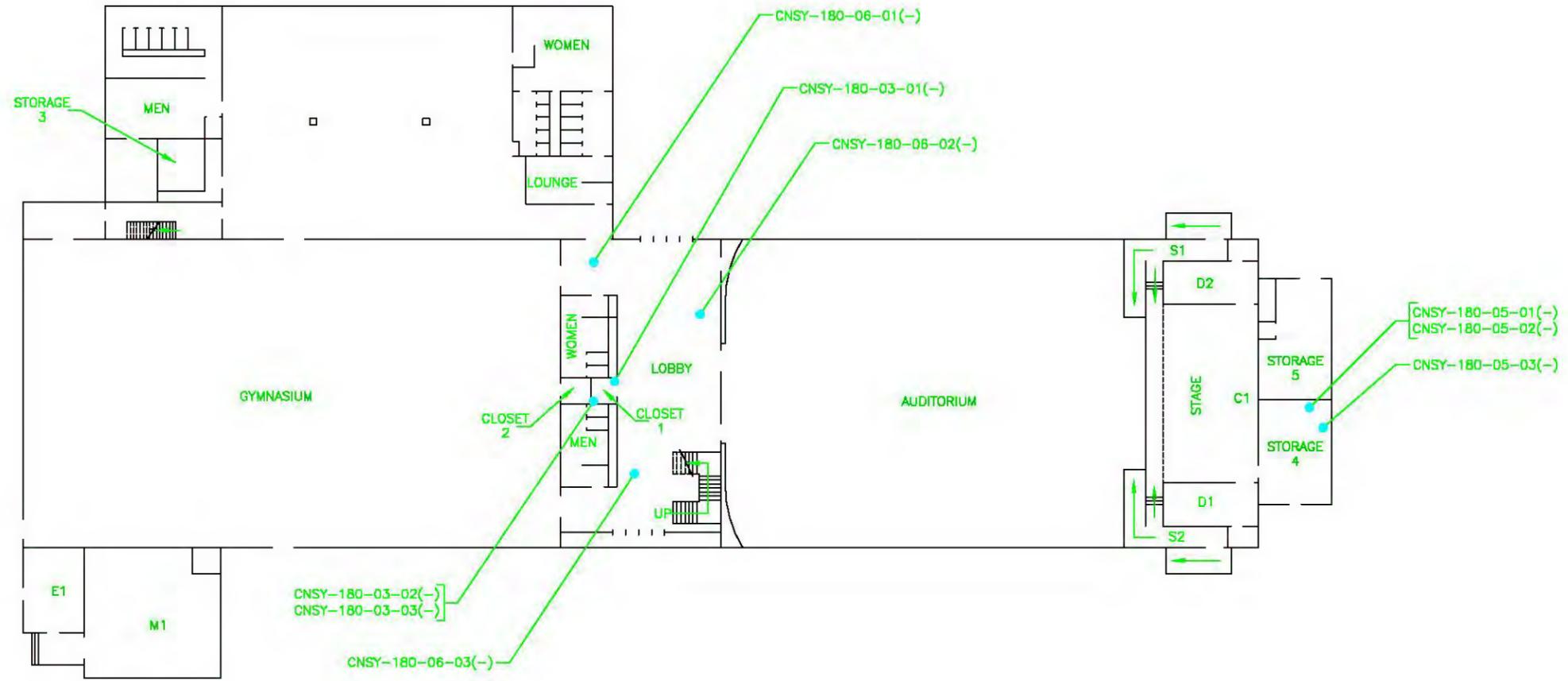
CNSY-180-01-01(+)

- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- SAMPLE I.D. No.
- HOMOGENEOUS AREA No.
- BUILDING IDENTIFICATION
- CHARLESTON NAVAL SHIPYARD



SCALE: 1/32" = 1'-0"

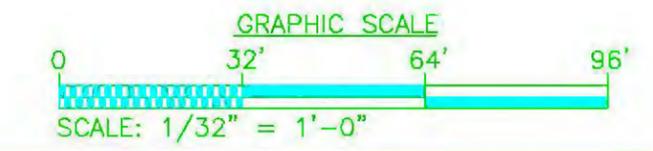
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.	ATLANTA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		GEORGIA
BUILDING 180 - FIRST FLOOR PLAN (FLOORS AND WALLS)		DIRK
DATE	DATE	DATE
APPROVED	OFFICER IN CHARGE	DIR
SEAL AREA	DATE	DATE
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO. N62487-98-0-1012		
NAVFAC DRAWING NO. N/A		
SHEET 2 OF 7		
180ASB-2		



**BUILDING 180 - FIRST FLOOR PLAN**  
 SCALE: 1/32" = 1'-0" 

TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-180-01-01(+)

- ↑ POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- ↑ SAMPLE I.D. No.
- ↑ HOMOGENEOUS AREA No.
- ↑ BUILDING IDENTIFICATION
- ↑ CHARLESTON NAVAL SHIPYARD

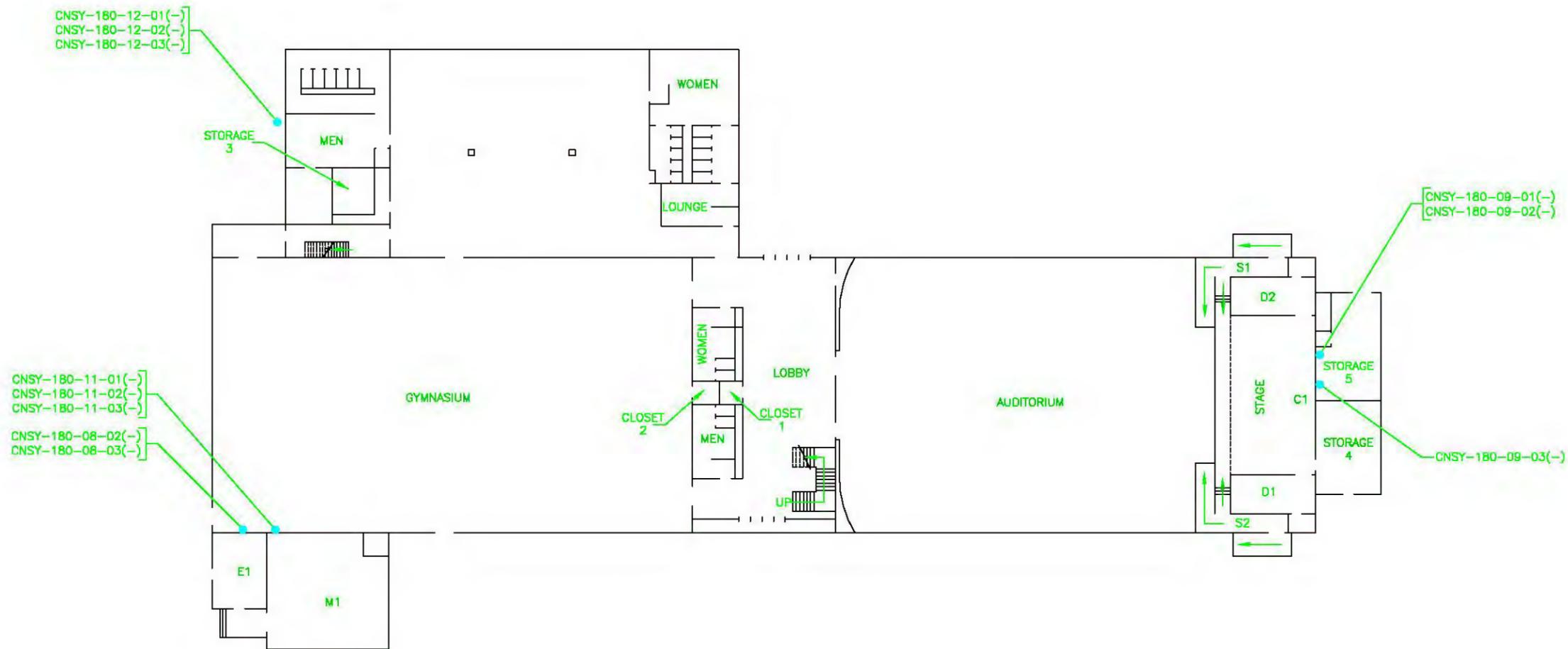


**SYMBOLS**

-  LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL

**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROVD	CAPE ENVIRONMENTAL MANAGEMENT INC. ATLANTA
SOUTHERN DIVISION CHARLESTON, S.C.	NAVY				ATLANTA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC BUILDING 180 - FIRST FLOOR PLAN (CEILING AND MISCELLANEOUS)					DIR
APPROVED	ED FOR COMMANDER, NAVFAC	APPROVED	DATE	OFFICER IN CHARGE	DIR
SEAL AREA					DIR
CODE ID No.	SIZE				DIR
FED DRAWING NO.					DIR
STA. PROJ. NO.					DIR
CAPE PRL No. 00008.008.000					DIR
SPEC. NO. N/A					DIR
CONSTRN. CNTR. NO. N62487-98-0-1012					DIR
NAVFAC DRAWING NO. N/A					DIR
SHEET 3 OF 7					DIR
180ASB-3					DIR



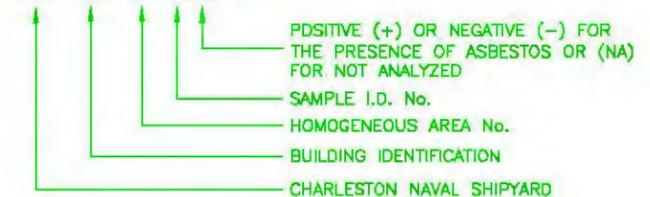
**BUILDING 180 – FIRST FLOOR PLAN**

SCALE: 1/32" = 1'-0"



**TYPICAL CAPE SAMPLE I.D. No.**

CNSY-180-01-01(+)

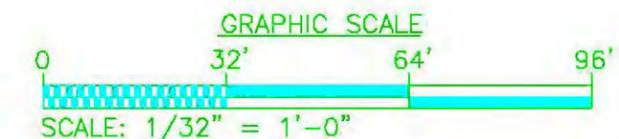


**NOTE**

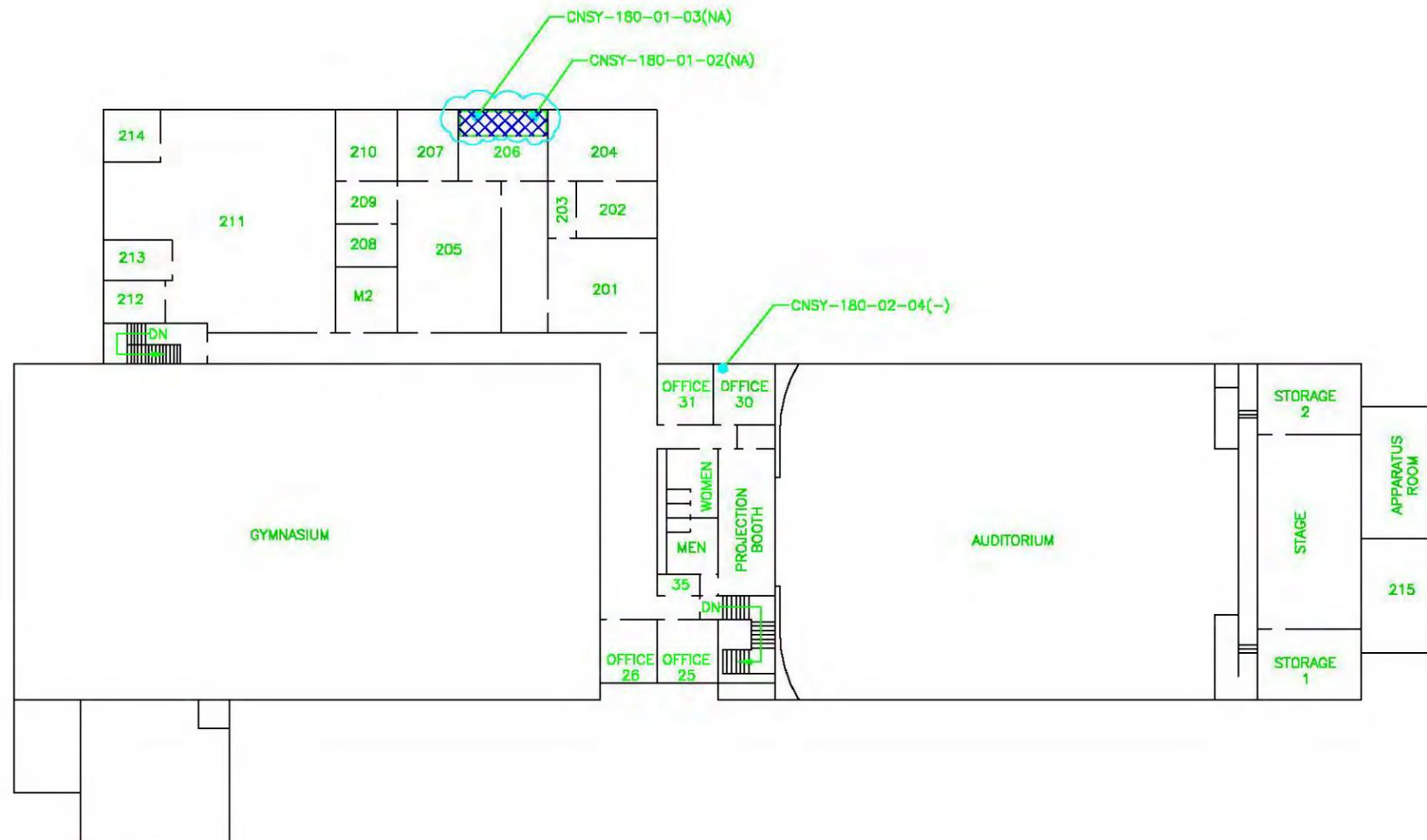
NO FRIABLE ASBESTOS-CONTAINING THERMAL SYSTEM INSULATION MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	GEORGIA
CHARLESTON, S.C.	TSBR	DIRK
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		DIR CHRIS
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		SUPV. PERFORMANCE ENGR
BUILDING 180 – FIRST FLOOR PLAN		SUBMITTED BY (FIRM MEMBER-TITLE)
(THERMAL SYSTEM INSULATION)		EDC
APPROVED	DATE	OFFICER IN CHARGE
EDC FOR COMMANDER, NAVFAC	APPROVED	FPE
DATE	DATE	DIR
SEAL AREA		
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PRL No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO. N62467-98-0-1012		
NAVFAC DRAWING NO. N/A		
SHEET 4	OF 7	
180ASB-4		



**BUILDING 180 - SECOND FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
 IDENTIFIED - FLOORS AND WALLS

 FLOOR COVERING AND MASTIC (+)

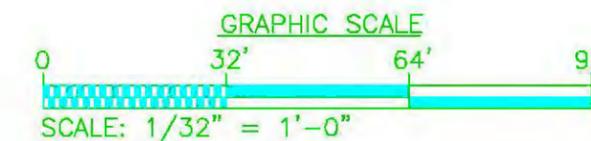
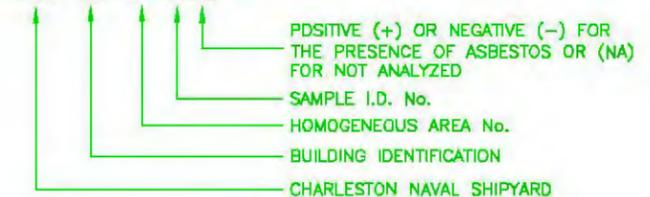
 LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL

**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

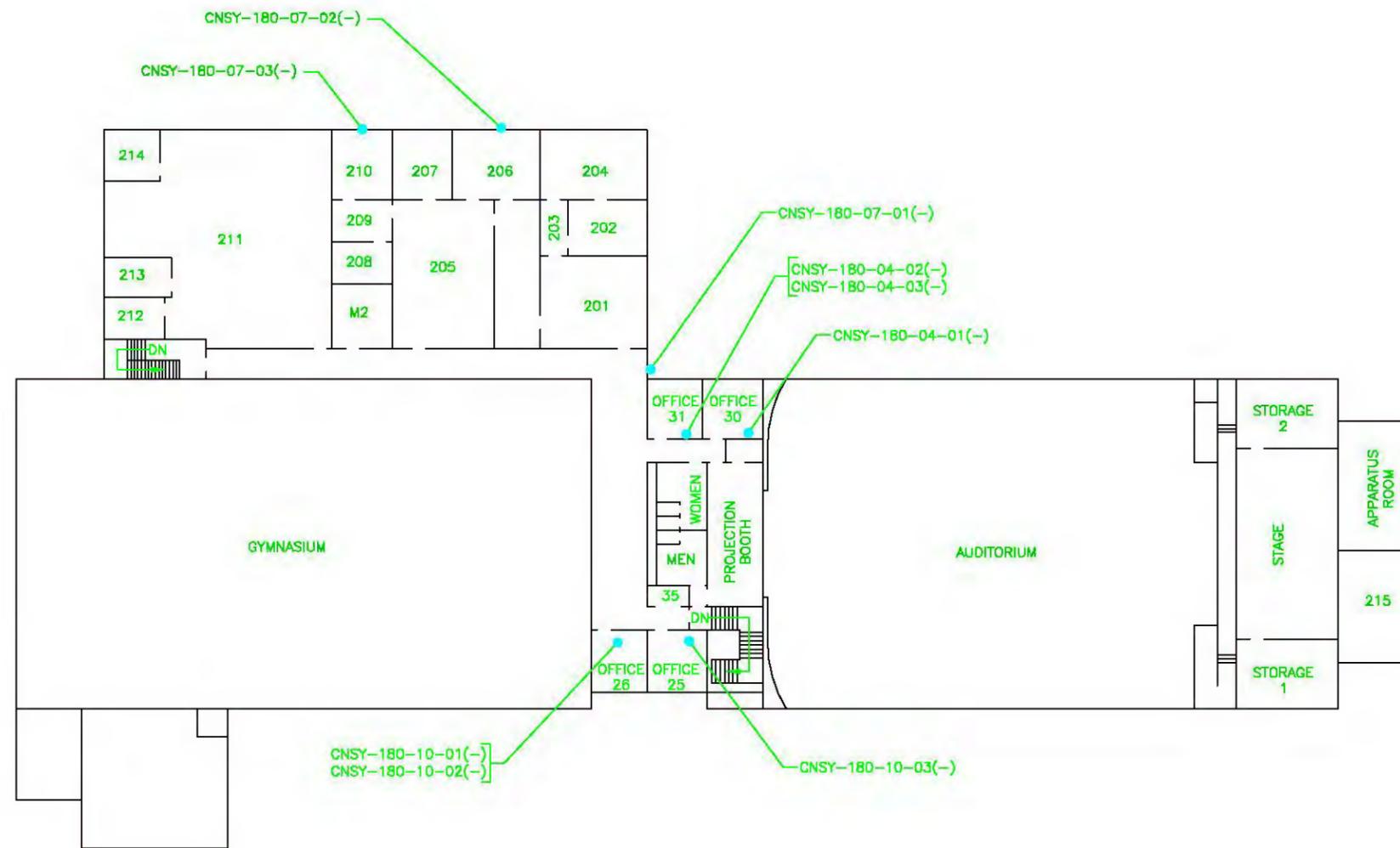
**SYMBOLS**

-  LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-180-01-01(+)



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	ATLANTA	DATE APPROVD	PREP BY	REV. DESCRIPTION	CAPE ENVIRONMENTAL MANAGEMENT INC. ATLANTA
SOUTHERN DIVISION	CHARLESTON, S.C.	GEORGIA				
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC BUILDING 180 - SECOND FLOOR PLAN (FLOORS AND WALLS)						DIR
ED FOR COMMANDER, NAVFAC						DIR
APPROVED	DATE	DATE	OFFICER IN CHARGE	DATE		DIR
SEAL AREA						
CODE ID No.	SIZE	B				
FED DRAWING NO.						
STA. PROJ. NO.						
CAPE PROJ. No. 00008.008.000						
SPEC. NO. N/A						
CONSTRN. CNTR. NO. N62487-98-0-1012						
NAVFAC DRAWING NO. N/A						
SHEET #	OF 7					
180ASB-5						

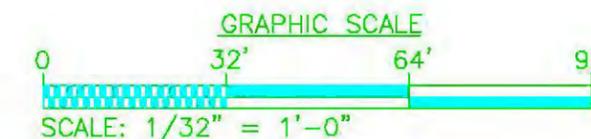


**BUILDING 180 - SECOND FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"



TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-180-01-01(+)

POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED  
 SAMPLE I.D. No.  
 HOMOGENEOUS AREA No.  
 BUILDING IDENTIFICATION  
 CHARLESTON NAVAL SHIPYARD



**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL

**NOTE**  
 NO FIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROV	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.				ATLANTA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC					GEORGIA
BUILDING 180 - SECOND FLOOR PLAN (CEILING AND MISCELLANEOUS)					DIR
APPROVED	DATE	OFFICER IN CHARGE	DATE		DIR
SEAL AREA					DIR
CODE ID No.	SIZE				DIR
FED DRAWING NO.					DIR
STA. PROJ. NO.					DIR
CAPE PROJ. No.	00008.008.000				DIR
SPEC. NO.	N/A				DIR
CONSTRN. CNTR. NO.	N62467-98-0-1012				DIR
NAVFAC DRAWING NO.	N/A				DIR
SHEET #	OF 7				DIR
180ASB-6					



## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



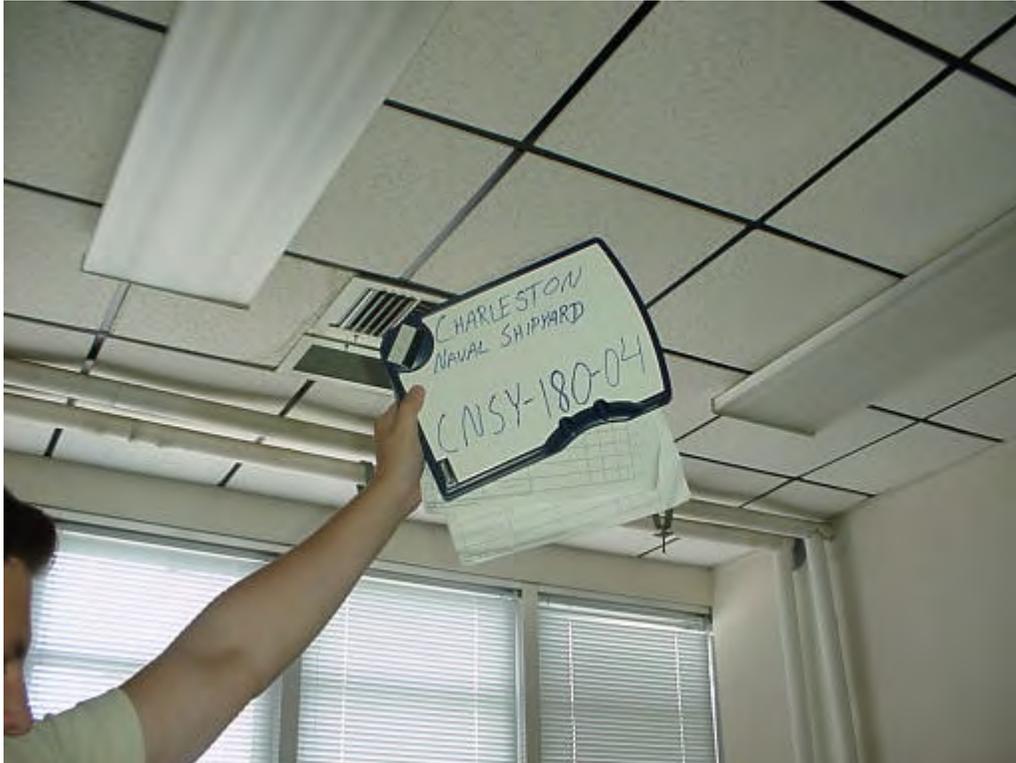
HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged 9" x 9" floor tile and mastic, orange w/ brown smudges	S1, S2, 206	Yes



HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged joint compound with associated gypsum wallboard	Storage 3, Office 30	No



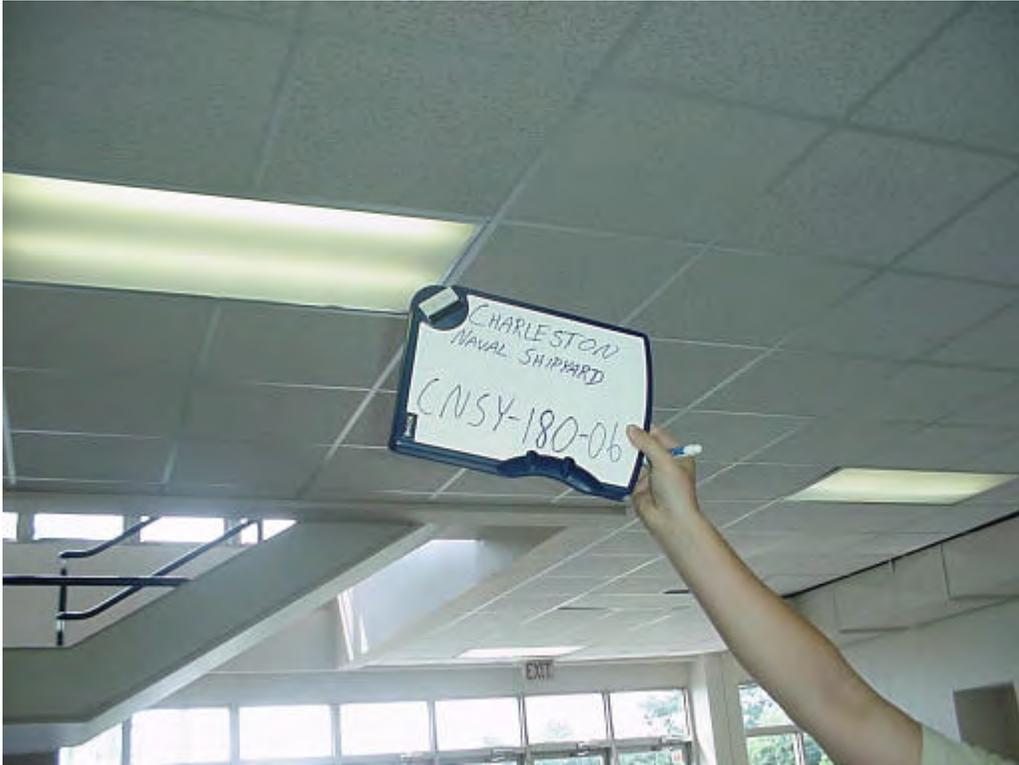
HA #	Material Description	Material Location	ACM (YES/NO)
3	Damaged residual base cove mastic	Closet 1, various rooms (2 <sup>nd</sup> floor)	No



HA #	Material Description	Material Location	ACM (YES/NO)
4	2' x 2' ceiling tile, pinhole, fissured	Office 30, Office 31	No



HA #	Material Description	Material Location	ACM (YES/NO)
5	Damaged plaster ceiling	Storage 4	No



HA #	Material Description	Material Location	ACM (YES/NO)
6	2' x 2' ceiling tile, pinhole, fissured	Lobby	No



HA #	Material Description	Material Location	ACM (YES/NO)
7	Damaged window putty	Exterior windows	No



HA #	Material Description	Material Location	ACM (YES/NO)
8	Pipe fitting insulation on domestic water line	Storage 2, Gymnasium	No



HA #	Material Description	Material Location	ACM (YES/NO)
9	Pipe insulation on steam lines	Auditorium, Storage 5, Storage 2, Lobby, Men's Room	No



HA #	Material Description	Material Location	ACM (YES/NO)
10	1' x 1' ceiling tile	Office 25, Office 26	No



HA #	Material Description	Material Location	ACM (YES/NO)
11	Pipe fitting insulation on steam lines	Gymnasium	No



HA #	Material Description	Material Location	ACM (YES/NO)
12	Thermal system insulation debris	Exterior (N.W. side)	No



HA #	Material Description	Material Location	ACM (YES/NO)
13	Contaminated soil	Crawlspace	Yes

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: *CAPE*

CLIENT NAME: *SDIV* PROJECT MANAGER: *Scott Bryant/Huan*

PROJECT NAME: *CHARLESTONKEY* PROJECT NUMBER: *00009.009.000*

ANALYSIS REQUESTED: PLM  OTHER:

TURNAROUND TIME SAME DAY NEXT DAY 3 DAYS 5 DAYS  
 REQUESTED:

INSTRUCTIONS: ANALYZE ALL  STOP POSITIVE

SAMPLE ID		SAMPLE ID	
1	<i>CNS4-180-1-01</i>	16	<i>CNS4-180-5-03</i>
2	<i>" 02</i>	17	<i>" 6-01</i>
3	<i>" 03</i>	18	<i>" 02</i>
4	<i>" -2-01</i>	19	<i>" 03</i>
5	<i>" 02</i>	20	<i>" 7-01</i>
6	<i>" 03</i>	21	<i>" 02</i>
7	<i>" 04</i>	22	<i>" 03</i>
8	<i>" -3-01</i>	23	<i>" 8-01</i>
	<i>" 02</i>	24	<i>" 02</i>
10	<i>" 03</i>	25	<i>" 03</i>
11	<i>" -4-01</i>	26	<i>" 9-01</i>
12	<i>" 02</i>	27	<i>" 02</i>
13	<i>" 03</i>	28	<i>" 03</i>
14	<i>" -5-01</i>	29	<i>" 04</i>
15	<i>" 02</i>	30	<i>_____</i>

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: <i>Brian Downes</i>	RECEIVED BY: <i>[Signature]</i>
DATE: <i>8-11-00</i> TIME: <i>10:00AM</i>	DATE: <i>8/11/00</i> TIME: <i>10:00am</i>
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

46

**CHAIN OF CUSTODY**

LABORATORY NAME: <i>CAPE</i>	
CLIENT NAME: <i>SDIV</i>	PROJECT MANAGER: <i>Juan Hernandez</i>
PROJECT NAME: <i>CNSY</i>	PROJECT NUMBER: <i>00009.009.000</i>
ANALYSIS REQUESTED: PLM <input checked="" type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED:	SAME DAY <input type="checkbox"/> NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/>
INSTRUCTIONS:	ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input checked="" type="checkbox"/>

SAMPLE ID		SAMPLE ID	
1	<i>CNSY-180-10-01</i>	16	<i>CNSY-180-13-07</i>
2	<i>" 02</i>	17	
3	<i>" 03</i>	18	
4	<i>" 11-01</i>	19	
5	<i>" 02</i>	20	
6	<i>" 03</i>	21	
7	<i>" 12-01</i>	22	
8	<i>" 02</i>	23	
9	<i>" 03</i>	24	
10	<i>13 01</i>	25	
11	<i>" 02</i>	26	
12	<i>" 03</i>	27	
13	<i>" 04</i>	28	
14	<i>" 05</i>	29	
15	<i>" 06</i>	30	

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: <i>Juan Daines</i>	RECEIVED BY: <i>[Signature]</i>
DATE: <i>8-11-00</i> TIME: <i>10:00AM</i>	DATE: <i>8/11/00</i> TIME: <i>10 am</i>
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178-1  
 DATE RECEIVED: 8/11/00  
 DATE ANALYZED: 8/15/00

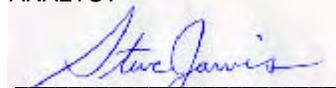
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9883-1	CNSY-180-1-01		1 (of 3)	YELLOW SEMI-HARD GLUE			3 CELLULOSE	90 MASTIC 7 OTHER
9883-2	CNSY-180-1-01		2 (of 3)	ORANGE HARD RESILIENT TO GRANULAR (FT)		10 CHRYSOTILE		25 AGGREGATES 65 OTHER
9883-3	CNSY-180-1-01		3 (of 3)	BLACK SOFT BITUMINOUS WITH FIBERS		<1 CHRYSOTILE	1 CELLULOSE	90 BITUMEN 9 OTHER
9884-1	CNSY-180-1-02		1 (of 3)	YELLOW SEMI-HARD GLUE	LAYER 2: NOT ANALYZED		3 CELLULOSE	90 MASTIC 7 OTHER
9884-3	CNSY-180-1-02		3 (of 3)	BLACK SOFT BITUMINOUS WITH FIBERS			1 CELLULOSE	95 BITUMEN 4 OTHER
9885-1	CNSY-180-1-03		1 (of 3)	YELLOW/GREEN SEMI-HARD GLUE	LAYER 2: NOT ANALYZED		2 CELLULOSE	90 AGGREGATES 8 OTHER
9885-3	CNSY-180-1-03		3 (of 3)	BLACK SOFT BITUMINOUS WITH FIBERS			2 CELLULOSE	90 BITUMEN 8 OTHER

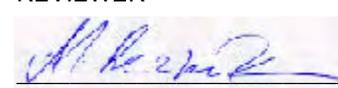
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/15/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178-1  
 DATE RECEIVED: 8/11/00  
 DATE ANALYZED: 8/15/00

REPORT ISSUED: 9/12/00  
 PAGE: 2 of 8

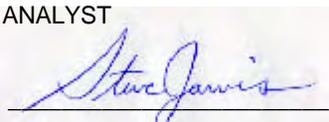
**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9886	<b>CNSY-180-2-01</b>		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			25 CELLULOSE	2 MICA/ VERMICULITE 73 OTHER
9887	<b>CNSY-180-2-02</b>		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			35 CELLULOSE	3 MICA/ VERMICULITE 62 OTHER
9888	<b>CNSY-180-2-03</b>		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			25 CELLULOSE	2 MICA/ VERMICULITE 73 OTHER
9889	<b>CNSY-180-2-04</b>		1+2 (of 2)	1. LIGHT GRAY HARD SILTY WITH FIBERS; 2. WHITE HARD SILTY WITH MICA (J/C) AND PAINT			1 CELLULOSE	5 MICA/ VERMICULITE 94 OTHER
9890	<b>CNSY-180-3-01</b>		1+2 (of 2)	1. LIGHT GRAY HARD SILTY WITH FIBERS; 2. BROWN HARD BRITTLE MASTIC			2 CELLULOSE	80 MASTIC 18 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.

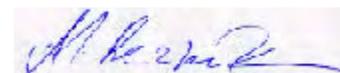
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/15/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178-1  
 DATE RECEIVED: 8/11/00  
 DATE ANALYZED: 8/15/00

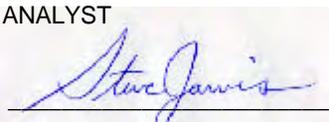
REPORT ISSUED: 9/12/00  
 PAGE: 3 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9891	CNSY-180-3-02		1+2 (of 2)	1. LIGHT GRAY HARD SILTY WITH FIBERS; 2. BROWN HARD BRITTLE MASTIC			2 CELLULOSE 1 SYNTHETICS	85 MASTIC 12 OTHER
9892	CNSY-180-3-03		1+2 (of 2)	1. LIGHT GRAY HARD SILTY WITH FIBERS; 2. BROWN HARD BRITTLE MASTIC			1 CELLULOSE	80 MASTIC 19 OTHER
9893	CNSY-180-4-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
9894	CNSY-180-4-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 25 GLASS FIBERS	35 PERLITE 10 OTHER
9895	CNSY-180-4-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 25 GLASS FIBERS	35 PERLITE 10 OTHER
9896	CNSY-180-5-01		1 (of 1)	GRAY AND WHITE SOFT POWDERY TO PLATY WITH AGGREGATES AND PAINT			2 CELLULOSE 5 GLASS FIBERS	5 AGGREGATES 15 MICA/ VERMICULITE 73 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/15/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178-1  
 DATE RECEIVED: 8/11/00  
 DATE ANALYZED: 8/15/00

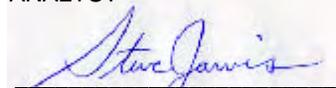
REPORT ISSUED: 9/12/00  
 PAGE: 4 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9897	CNSY-180-5-02		1 (of 1)	GRAY AND WHITE SOFT POWDERY TO PLATY WITH AGGREGATES AND PAINT			2 CELLULOSE 3 GLASS FIBERS	3 AGGREGATES 20 MICA/ VERMICULITE 72 OTHER
9898	CNSY-180-5-03		1 (of 1)	GRAY AND WHITE SOFT POWDERY TO PLATY WITH AGGREGATES AND PAINT			1 CELLULOSE 1 GLASS FIBERS	2 AGGREGATES 15 MICA/ VERMICULITE 81 OTHER
9899	CNSY-180-6-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
9900	CNSY-180-6-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
9901	CNSY-180-6-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
9902	CNSY-180-7-01		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 CELLULOSE	99 OTHER

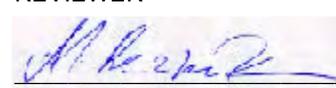
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178-1  
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 DATE ANALYZED: 8/15/00

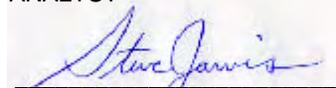
REPORT ISSUED: 9/12/00  
 PAGE: 5 of 8

**RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9903	<b>CNSY-180-7-02</b>		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 CELLULOSE	99 OTHER
9904	<b>CNSY-180-7-03</b>		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 CELLULOSE 1 TALC	98 OTHER
9905	<b>CNSY-180-8-01</b>		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT	TOTAL ASBESTOS CONTENT <1%	<1 CHRYBOTILE <1 AMOSITE	15 CELLULOSE 15 GLASS FIBERS	70 OTHER
9906	<b>CNSY-180-8-02</b>		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			15 CELLULOSE 15 GLASS FIBERS	70 OTHER
9907	<b>CNSY-180-8-03</b>		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			15 CELLULOSE 10 GLASS FIBERS	75 OTHER
9908	<b>CNSY-180-9-01</b>		1 (of 1)	WHITE SOFT POWDERY WITH FIBERS AND CANVAS			7 CELLULOSE 15 GLASS FIBERS 8 SYNTHETICS	70 OTHER
9909	<b>CNSY-180-9-02</b>		1 (of 1)	WHITE SOFT POWDERY WITH FIBERS, CANVAS, AND PAINT			10 CELLULOSE 15 GLASS FIBERS 5 SYNTHETICS	70 OTHER

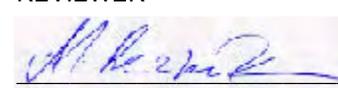
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178-1  
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REPORT ISSUED: 9/12/00  
 PAGE: 6 of 8

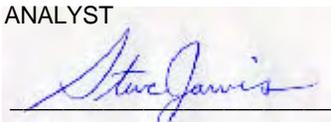
**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9910	CNSY-180-9-03		1 (of 1)	WHITE SOFT POWDERY WITH FIBERS, CANVAS, AND PAINT			7 CELLULOSE 15 GLASS FIBERS 5 SYNTHETICS	73 OTHER
9911	CNSY-180-9-04		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT	TOTAL ASBESTOS CONTENT <1%	<1 CHRYSOTILE <1 AMOSITE	3 CELLULOSE 15 GLASS FIBERS	82 OTHER
9912	CNSY-180-10-01		1 (of 1)	BROWN SOFT FIBROUS WITH PAINT			35 GLASS FIBERS 2 WOLLASTONITE 2 TALC	61 OTHER
9913	CNSY-180-10-02		1 (of 1)	BROWN SOFT FIBROUS WITH PAINT			45 GLASS FIBERS 2 WOLLASTONITE 1 TALC	52 OTHER
9914	CNSY-180-10-03		1 (of 1)	BROWN SOFT FIBROUS WITH PAINT			30 GLASS FIBERS 1 WOLLASTONITE 1 TALC	1 MICA/ VERMICULITE 67 OTHER
9915	CNSY-180-11-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			3 CELLULOSE 20 GLASS FIBERS	77 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.

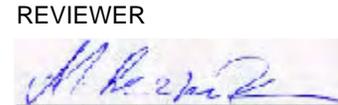
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ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178-1  
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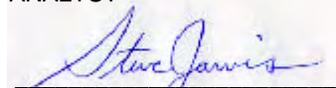
REPORT ISSUED: 9/12/00  
 PAGE: 7 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9916	CNSY-180-11-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			2 CELLULOSE 20 GLASS FIBERS	78 OTHER
9917	CNSY-180-11-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			3 CELLULOSE 25 GLASS FIBERS	72 OTHER
9918	CNSY-180-12-01		1 (of 1)	WHITE SEMI-HARD POWDERY TO SILTY WITH FIBROUS DEBRIS			30 CELLULOSE 5 GLASS FIBERS	65 OTHER
9919	CNSY-180-12-02		1 (of 1)	WHITE SEMI-HARD POWDERY TO SILTY WITH FIBROUS DEBRIS			30 CELLULOSE 2 GLASS FIBERS	68 OTHER
9920	CNSY-180-12-03		1 (of 1)	WHITE SEMI-HARD POWDERY TO SILTY WITH FIBROUS DEBRIS			25 CELLULOSE 2 GLASS FIBERS	73 OTHER
9921	CNSY-180-13-01		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS AND A TRACE OF WHITE DEBRIS			10 CELLULOSE	50 AGGREGATES 40 OTHER
9922	CNSY-180-13-02		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS AND A TRACE OF WHITE DEBRIS			5 CELLULOSE	50 AGGREGATES 45 OTHER

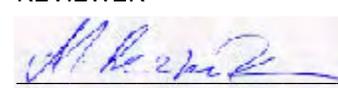
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
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 PAGE: 8 of 8

**RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9923	CNSY-180-13-03		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS			5 CELLULOSE 1 SYNTHETICS	45 AGGREGATES 49 OTHER
9924	CNSY-180-13-04		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS, PAINT, AND CEMENTITIOUS DEBRIS			3 CELLULOSE	55 AGGREGATES 42 OTHER
9925	CNSY-180-13-05		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS AND PLASTER DEBRIS	3% CHRYSOTILE IN PLASTER DEBRIS WHICH IS 10% OF THE SAMPLE VOLUME	<1 CHRYSOTILE	3 CELLULOSE	55 AGGREGATES 42 OTHER
9926	CNSY-180-13-06		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS AND PLASTER DEBRIS	<1% CHRYSOTILE IN PLASTER DEBRIS WHICH IS 10% OF THE SAMPLE VOLUME	<1 CHRYSOTILE	3 CELLULOSE	50 AGGREGATES 47 OTHER
9927	CNSY-180-13-07		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL			2 CELLULOSE	40 AGGREGATES 58 OTHER

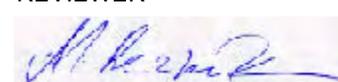
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

Client: Cape Environmental Management  
 Job Name: CNSY  
 Job Number: 00009.009.000  
 Reviewer: Will B. [Signature]

Summary of Results of analysis by Polarized Light Microscopy (PLM)

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-1079-3-01 QC	M24258-001			NO ASBESTOS OBSERVED
CNSY-180-2-01 QC	M24258-002			NO ASBESTOS OBSERVED
CNSY-180-5-01 QC	M24258-003			NO ASBESTOS OBSERVED
CNSY-180-8-01 QC	M24258-004PC			Trace% Chrysotile Trace% Amosite
CNSY-180-9-01 QC	M24258-005			NO ASBESTOS OBSERVED
CNSY-180-12-01 QC	M24258-006			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

# **BUILDING 199**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 199**  
**DESCRIPTION: Training Building**

Building 199 is a two-story structure totaling 41,196 square feet. The building was constructed in 1970.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
4	Pipe fitting insulation on water lines	Mech. room	TSI	15 EA	Good

Legend: TSI = Thermal System  
Insulation

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM.

***No damaged friable ACM was identified in this building.***

Abatement Comments: N/A

***Non-Damaged/Friable ACM:***

DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.

## FACILITY NO.: 199

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

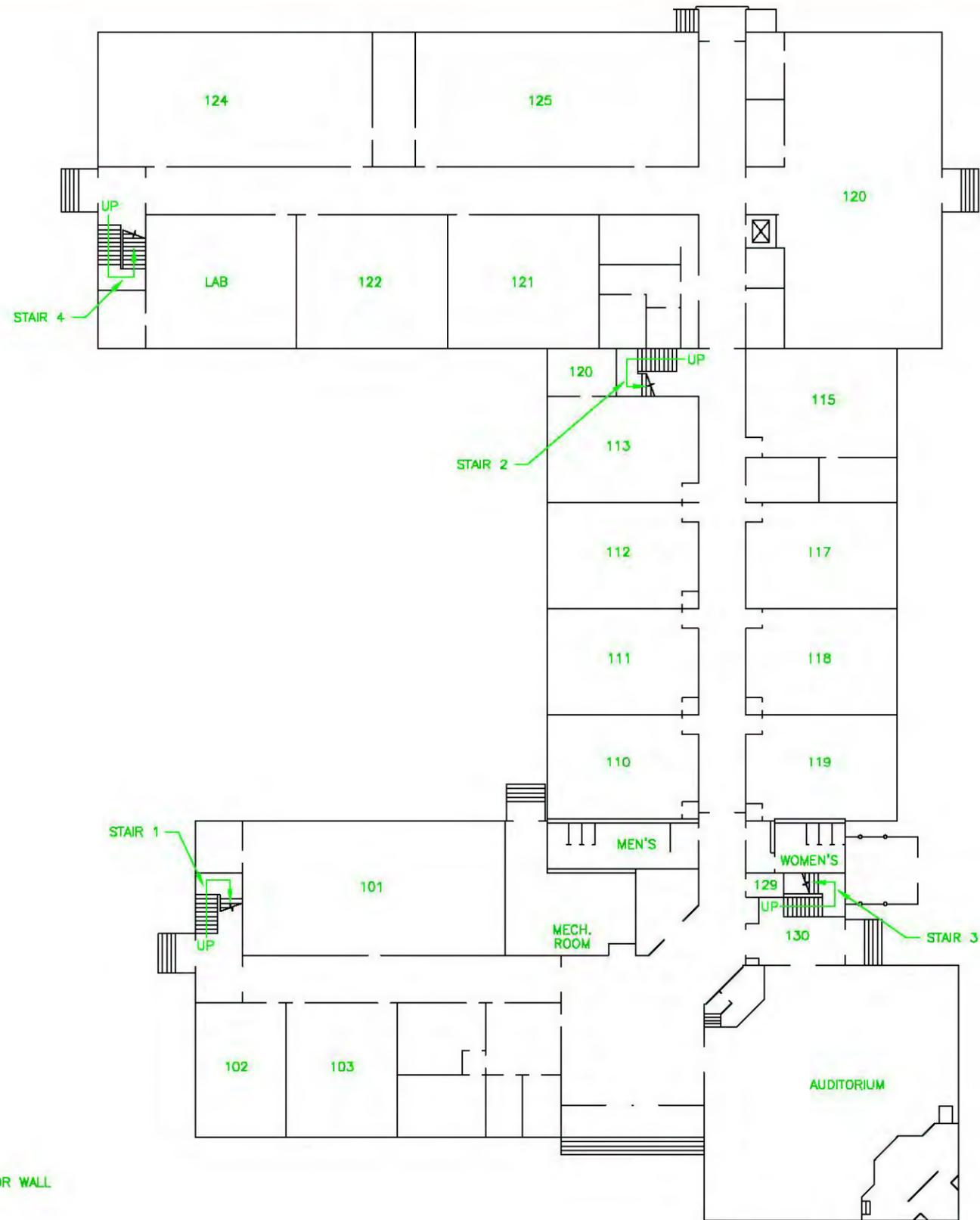
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged plaster ceiling	Projection room (auditorium)	CAPE 2000	CNSY-199-01-01 CNSY-199-01-02 CNSY-199-01-03	NAD NAD NAD	No
2	2'x4' ceiling tile, pitted-pinhole	South wing (1 <sup>st</sup> and 2 <sup>nd</sup> floors)	CAPE 2000	CNSY-199-02-01 CNSY-199-02-02 CNSY-199-02-03	NAD NAD NAD	No
3	2'x2' ceiling tile, pitted-pinhole	North wing (1 <sup>st</sup> and 2 <sup>nd</sup> floors)	CAPE 2000	CNSY-199-03-01-QC CNSY-199-03-01 CNSY-199-03-02 CNSY-199-03-03	NAD NAD NAD NAD	No
4	Pipe fitting insulation on water lines	Mech. room	CAPE 2000	CNSY-199-04-01 CNSY-199-04-02 CNSY-199-04-03	7% CHR NA NA	Yes

Legend: NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

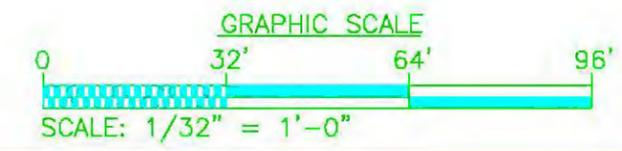
### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



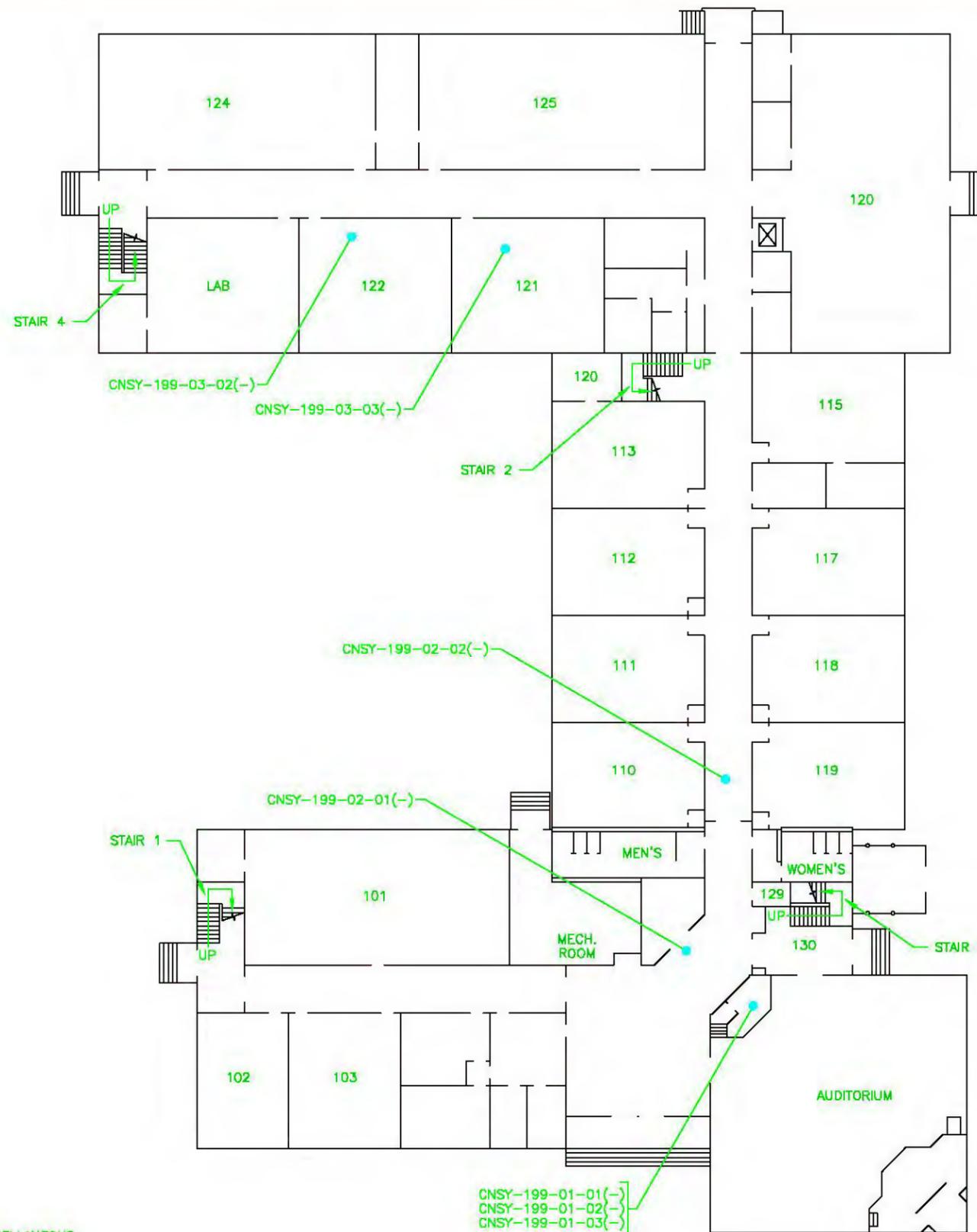
**NOTE:**  
NO FRIABLE ASBESTOS-CONTAINING FLOOR COVERING OR WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**NOTE:**  
NO FRIABLE ASBESTOS-CONTAINING ROOFING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**BUILDING 199 – FIRST FLOOR PLAN**  
SCALE: 1/32" = 1'-0"



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		CHARLESTON, S.C.		ATLANTA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		GEORGIA	
BUILDING 199 – FIRST FLOOR PLAN		(FLOORS AND WALLS)		DIR	
APPROVED		DATE		OFFICER IN CHARGE	
SEAL AREA		REV. DESCRIPTION		PREP BY	
CODE ID No.		DATE APPROVD		DATE	
STA. PROJ. NO.		REV. DESCRIPTION		PREP BY	
CAPE PROJ. No. 00008.008.000		REV. DESCRIPTION		PREP BY	
SPEC. NO. N/A		REV. DESCRIPTION		PREP BY	
CONSTRN. CNTR. NO.		REV. DESCRIPTION		PREP BY	
N62487-98-0-1012		REV. DESCRIPTION		PREP BY	
NAVFAC DRAWING NO.		REV. DESCRIPTION		PREP BY	
N/A		REV. DESCRIPTION		PREP BY	
SHEET 1 OF 8		REV. DESCRIPTION		PREP BY	
199ASB-1		REV. DESCRIPTION		PREP BY	



**NOTE:**  
NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**BUILDING 199 - FIRST FLOOR PLAN**

SCALE: 1/32" = 1'-0"

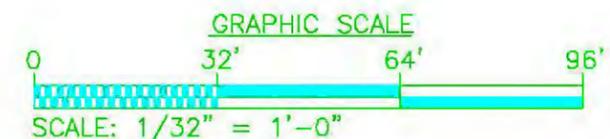


**SYMBOLS**

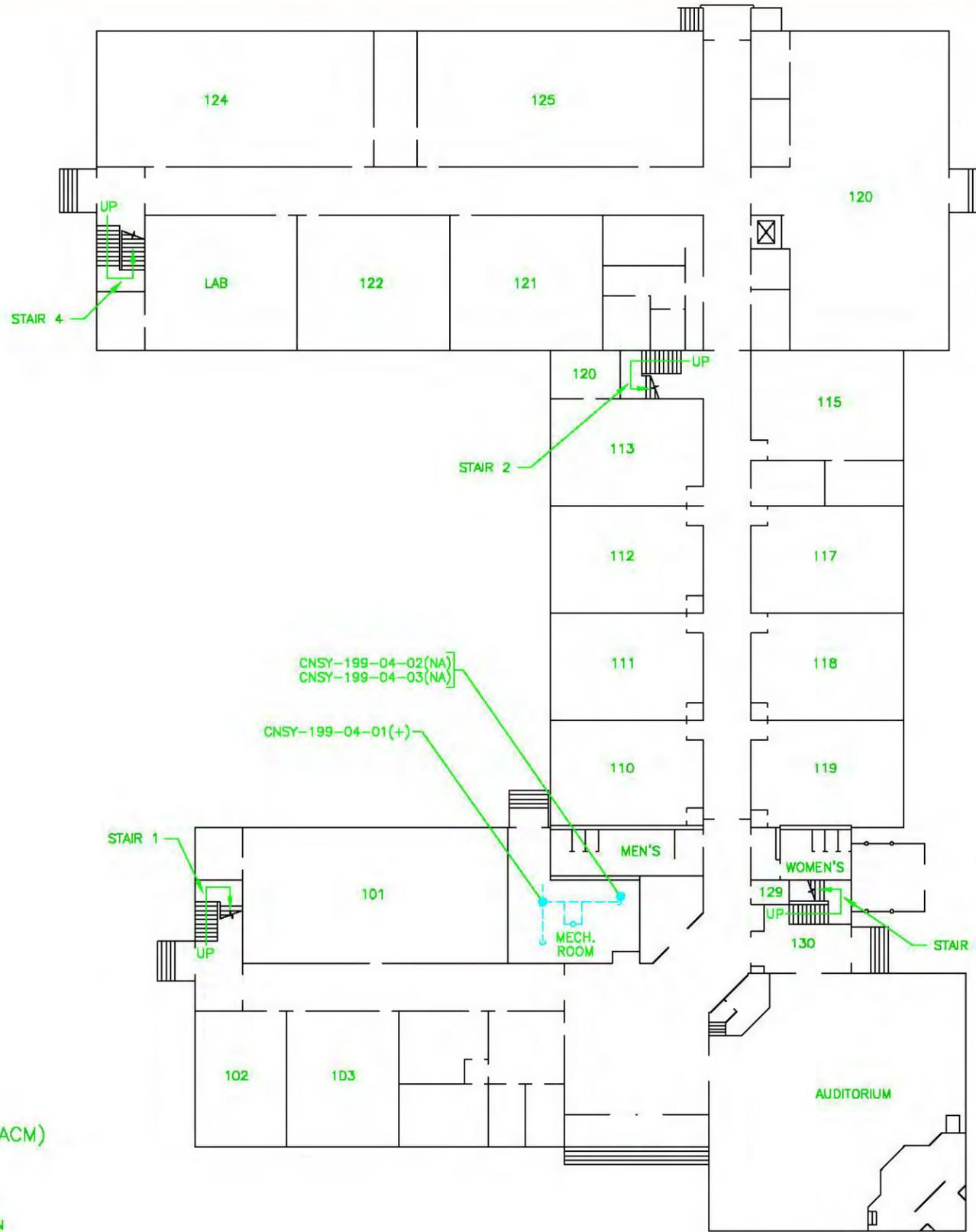
- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL

TYPICAL CAPE SAMPLE I.D. No.  
CNSY-199-01-01(+)

- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- SAMPLE I.D. No.
- HOMOGENEOUS AREA No.
- BUILDING IDENTIFICATION
- CHARLESTON NAVAL SHIPYARD



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	GEORGIA	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC BUILDING 199 - FIRST FLOOR PLAN (CEILING AND MISCELLANEOUS)		DIR
APPROVED	DATE	OFFICER IN CHARGE
SEAL AREA	DATE	OFFICER IN CHARGE
ED FOR COMMANDER, NAVFAC	APPROVED	FPE
CODE I.D. No.	SIZE	DIR
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N42487-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET 2	OF 8	
199ASB-2		

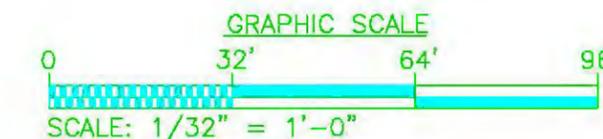


**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-199-01-01(+)

- ↑ POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- ↑ SAMPLE I.D. No.
- ↑ HOMOGENEOUS AREA No.
- ↑ BUILDING IDENTIFICATION
- ↑ CHARLESTON NAVAL SHIPYARD



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
 IDENTIFIED - THERMAL SYSTEMS  
 INSULATION (T.S.I.)

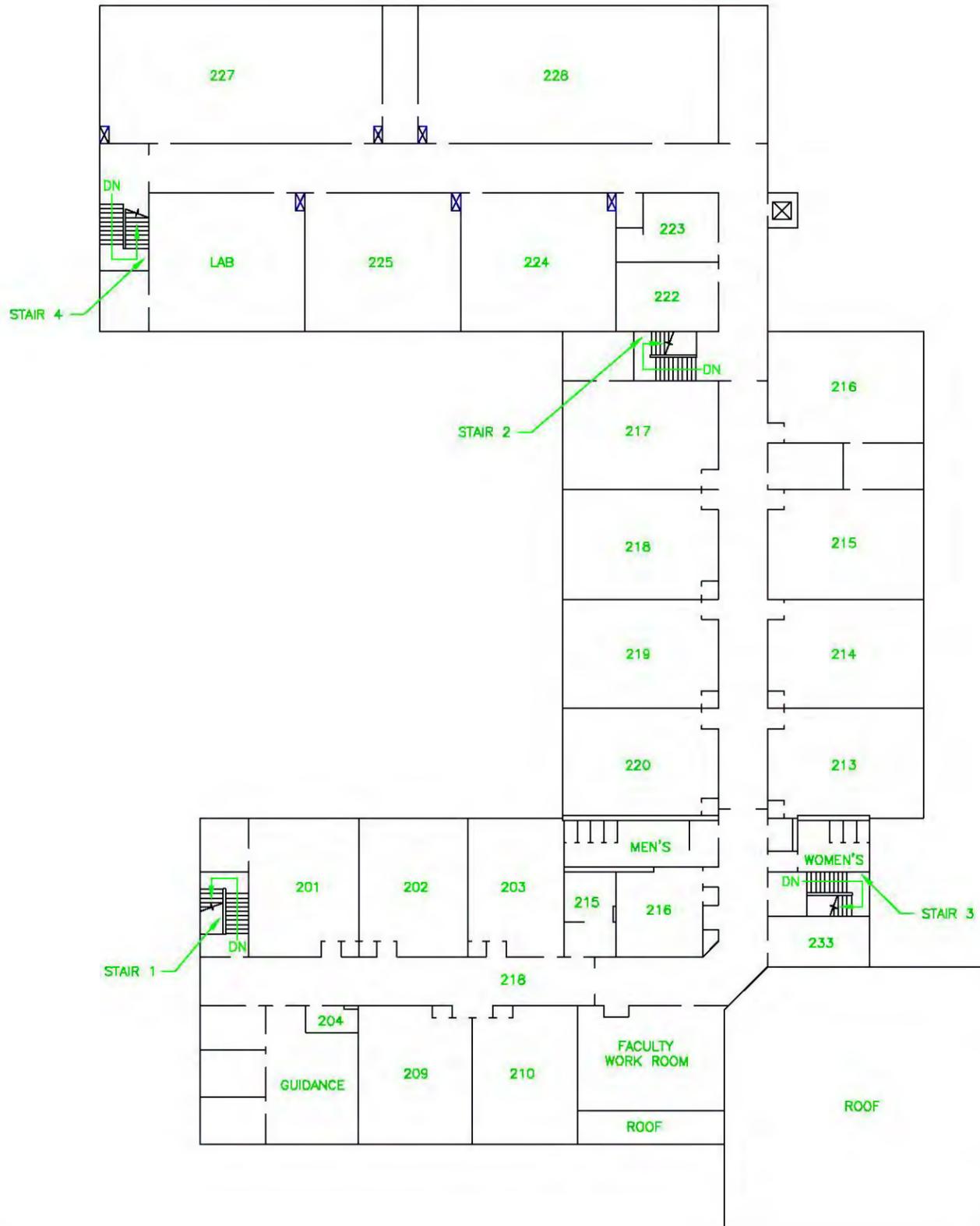
- ASBESTOS-CONTAINING PIPE FITTING INSULATION ON FIBERGLASS INSULATED HOT WATER LINES
- PIPE TURNS UP
- ← PIPE TURNS DOWN

**BUILDING 199 - FIRST FLOOR PLAN**

SCALE: 1/32" = 1'-0"

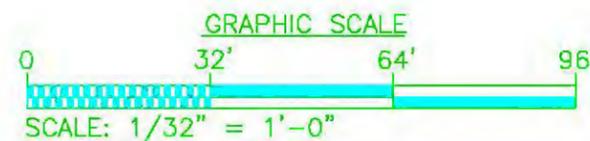


DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROV	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.				ATLANTA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC BUILDING 199 - FIRST FLOOR PLAN (THERMAL SYSTEM INSULATION)					GEORGIA
					DIR
APPROVED					DIR CHRIS
					DATE
OFFICER IN CHARGE					DATE
EDD FOR COMMANDER, NAVFAC					DATE
APPROVED					DATE
CODE ID No.	SIZE	B			
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PRL No. 00008.008.000					
SPEC. NO. N/A					
CONSTRN. CNTR. NO. N42487-98-0-1012					
NAVFAC DRAWING NO. N/A					
SHEET 3 OF 8					
199ASB-3					

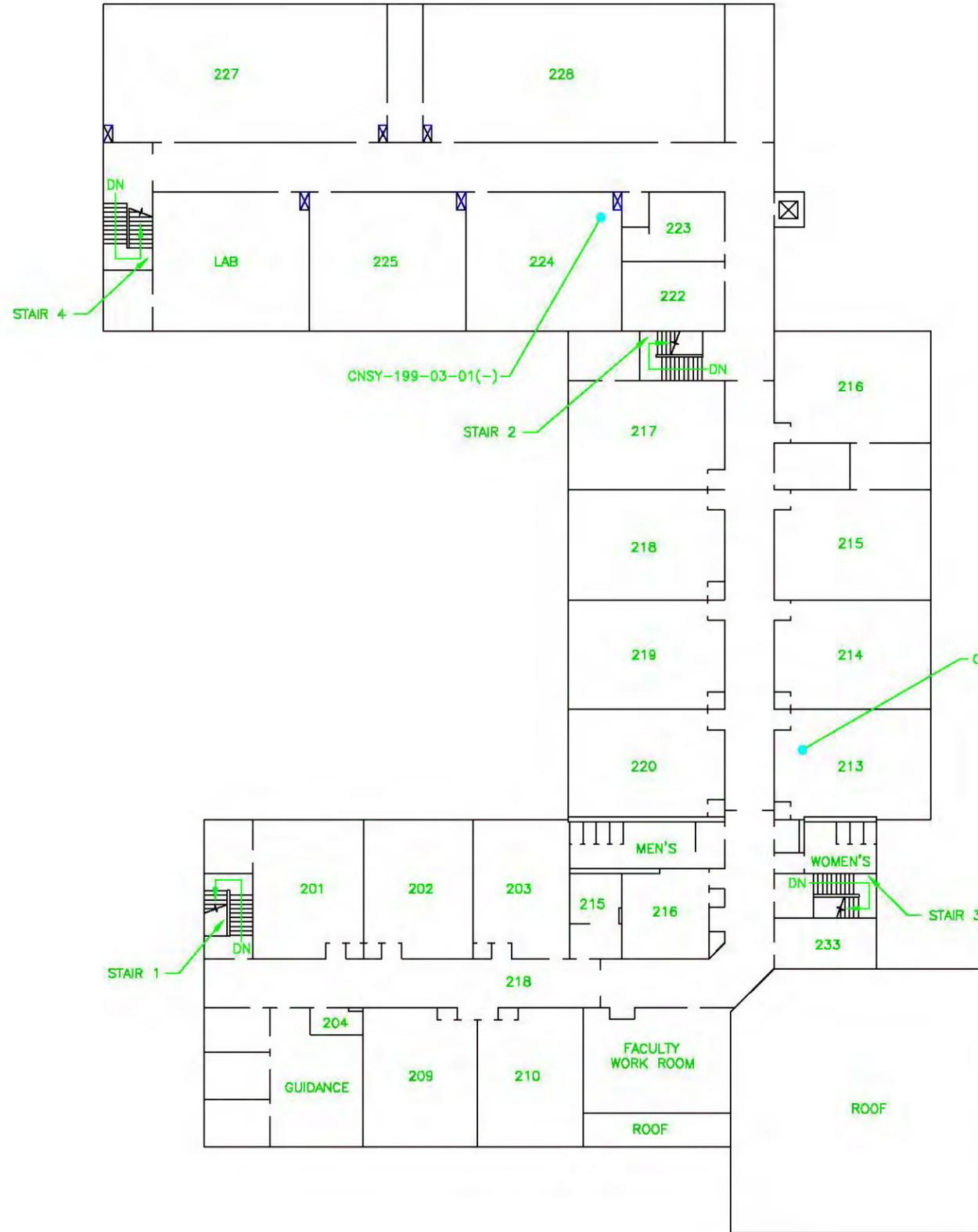


**NOTE:**  
 NO FRIABLE ASBESTOS-CONTAINING FLOOR COVERING OR WALL  
 MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**BUILDING 199 - SECOND FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		CHARLESTON, S.C.		ATLANTA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		GEORGIA	
BUILDING 199 - SECOND FLOOR PLAN		(FLOORS AND WALLS)		DIR	
APPROVED		DATE		OFFICER IN CHARGE	
SEAL AREA		REV. DESCRIPTION		PREP BY	
CODE ID No.		DATE APPROV		DATE	
STA. PROJ. NO.		ATLANTA		DIR	
CAPE PROJ. No. 00008.008.000		DIR		DIR	
SPEC. NO. N/A		DIR		DIR	
CONSTRN. CNTR. NO.		DIR		DIR	
NAVFAC DRAWING NO.		DIR		DIR	
SHEET #		DATE		DATE	
OF #		OFFICER IN CHARGE		DATE	
199ASB-4		EDD FOR COMMANDER, NAVFAC		APPROVED	

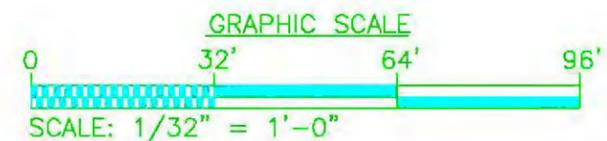


**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL

TYPICAL CAPE SAMPLE I.D. No.  
CNSY-199-D1-01(+)

- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- SAMPLE I.D. No.
- HOMOGENEOUS AREA No.
- BUILDING IDENTIFICATION
- CHARLESTON NAVAL SHIPYARD



**NOTE:**

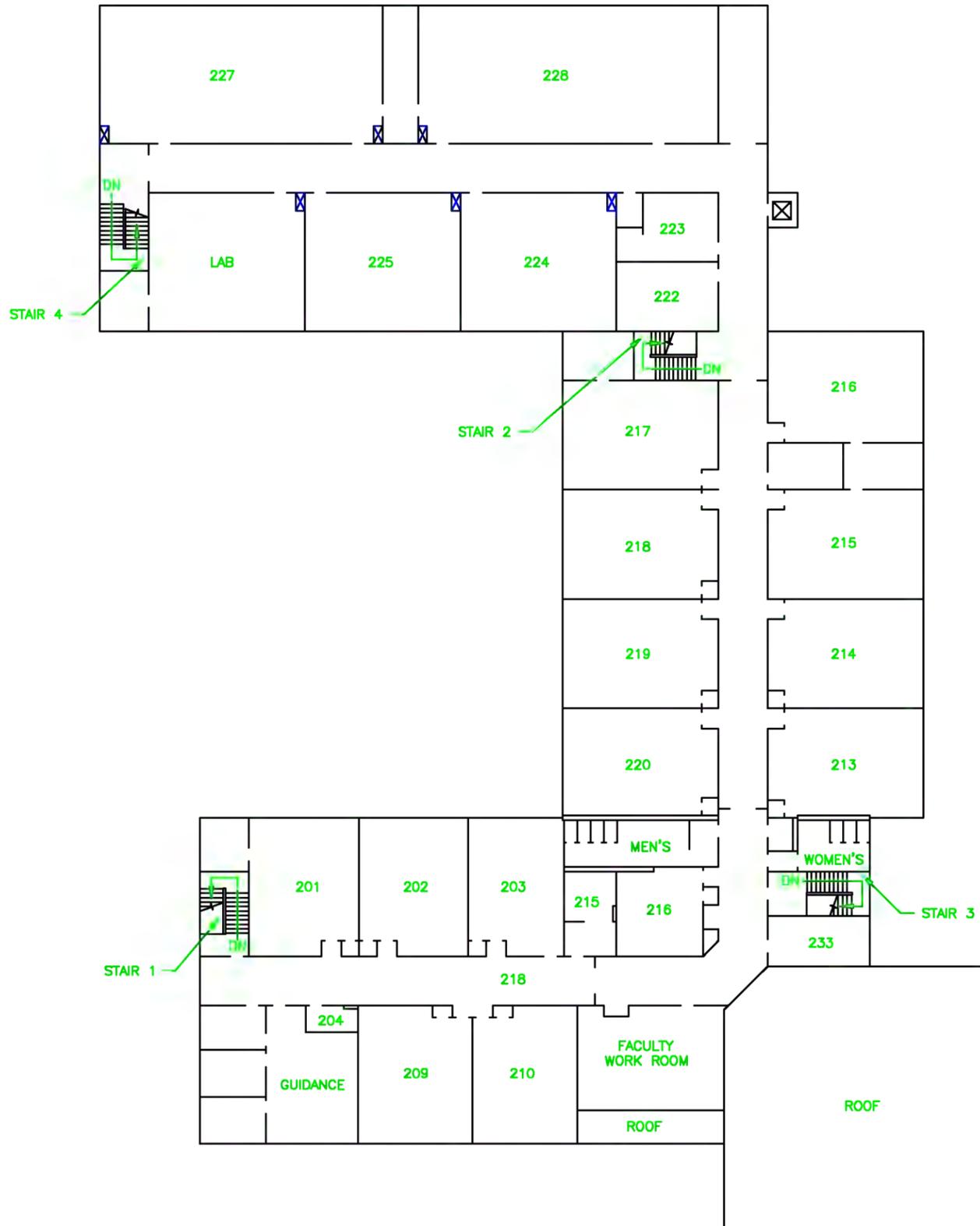
NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**BUILDING 199 - SECOND FLOOR PLAN**

SCALE: 1/32" = 1'-0"

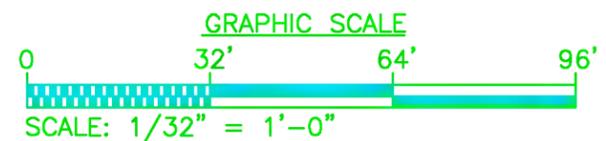


DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	GEORGIA	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		DIR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR CRISIS
BUILDING 199 - SECOND FLOOR PLAN		SUPV. PERFORMANCE ENGR
(CEILING AND MISCELLANEOUS)		SUBMITTED BY (FIRM MEMBER-TITLE)
DATE	DATE	DATE
APPROVED	OFFICER IN CHARGE	DIR
SEAL AREA	DATE	DATE
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N62467-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET #	OF #	
199ASB-5		



**NOTE:**  
 NO FRIABLE ASBESTOS-CONTAINING THERMAL SYSTEM  
 INSULATION MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**BUILDING 199 – SECOND FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		ATLANTA		GEORGIA	
CHARLESTON, S.C.		USRN		DR CRIS	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		SUBMITTED BY (FIRM MEMBER-TITLE)		DATE	
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		EDC		BR HD	
BUILDING 199 – SECOND FLOOR PLAN		OFFICER IN CHARGE		DR	
(THERMAL SYSTEM INSULATION)		DATE		PFE	
APPROVED		DATE		OFFICER IN CHARGE	
SEAL AREA		ED FOR COMMANDER, NAVFAC		APPROVED	
CODE ID.No.	SIZE	B			
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PRL No.	00008.008.000				
SPEC. NO.	N/A				
CONSTRN. CNTR. NO.	N62487-88-0-1012				
NAVFAC DRAWING NO.	N/A				
SHEET #	OF #				
199ASB-6					

## **PART 3**

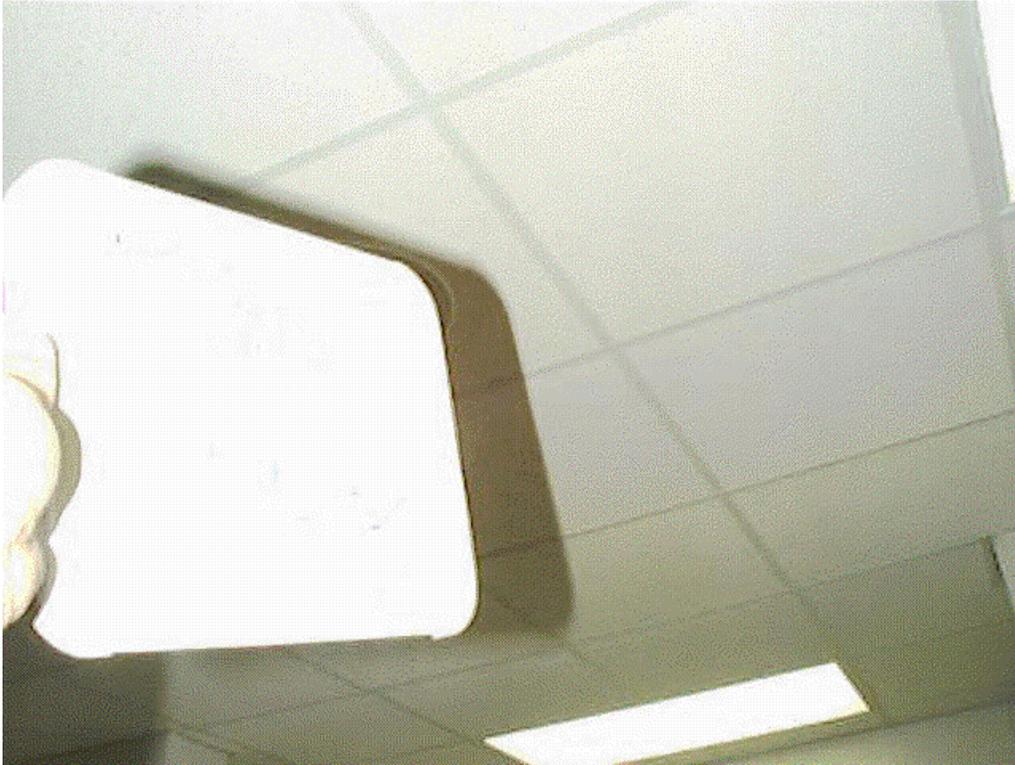
### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged plaster ceiling	Projection room (auditorium)	NO



HA #	Material Description	Material Location	ACM (YES/NO)
2	2'x4' ceiling tile, pitted-pinhole	South wing (1 <sup>st</sup> and 2 <sup>nd</sup> floors)	NO



HA #	Material Description	Material Location	ACM (YES/NO)
3	2'x2' ceiling tile, pitted-pinoled	North wing (1 <sup>st</sup> and 2 <sup>nd</sup> floors)	NO



HA #	Material Description	Material Location	ACM (YES/NO)
4	Pipe fitting insulation on water lines	Mech. room	YES

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID	SAMPLE ID
1 CNSY-199-01-01	16
2 CNSY-199-01-02	17
3 CNSY-199-01-03	18
4 CNSY-199-02-01	19
5 CNSY-199-02-02	20
6 CNSY-199-02-03	21
7 CNSY-199-03-01	22
8 CNSY-199-03-02	23
9 CNSY-199-03-03	24
10 CNSY-199-04-01	25
11 CNSY-199-04-02	26
12 CNSY-199-04-03	27
13	28
14	29
15	30

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-2  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/5/00

REPORT ISSUED: 9/12/00  
 PAGE: 1 of 2

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7292	CNSY-199-01-01		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR WITH BLACK PAINT				25 AGGREGATES 10 PERLITE 65 OTHER
7293	CNSY-199-01-02		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR WITH BLACK PAINT				20 AGGREGATES 10 PERLITE 70 OTHER
7294	CNSY-199-01-03		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR WITH BLACK PAINT				20 AGGREGATES 10 PERLITE 70 OTHER
7295	CNSY-199-02-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 35 GLASS FIBERS	20 PERLITE 10 OTHER
7296	CNSY-199-02-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7297	CNSY-199-02-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER

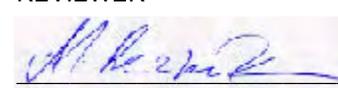
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/5/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-2  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/5/00

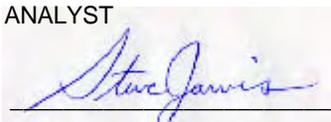
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 2

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7298	CNSY-199-03-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7299	CNSY-199-03-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 25 GLASS FIBERS	35 PERLITE 10 OTHER
7300	CNSY-199-03-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7301	CNSY-199-04-01		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT		7 CHRYSOTILE	25 CELLULOSE 25 GLASS FIBERS	43 OTHER
7302	CNSY-199-04-02			NOT ANALYZED	NOT ANALYZED			
7303	CNSY-199-04-03			NOT ANALYZED	NOT ANALYZED			

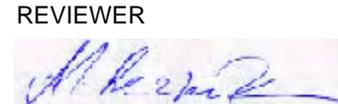
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/5/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.****3945 LAKEFIELD COURT****SUWANEE, GA 30024****(770) 866-3200****Client: Cape Environmental Management****Job Name: Charleston****Job Number: 00009.009.000****Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1*	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1*	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1*	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

# **BUILDING 220**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 220**  
**DESCRIPTION: Golf Pro Shop**

Building 220 is a single-story structure totaling 2,800 square feet. The building was constructed in 1968.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged 12"x12" non-asbestos containing floor tile with asbestos-containing mastic, tan	110	Misc	25 SF	Damaged
2	Damaged joint compound associated with gypsum wallboard	110	Misc	20 SF	Damaged
3	Damaged transite-type wall panels	112	Misc	60 SF	Damaged
4	Pipe fitting insulation on steam lines	104, 106	TSI	2 EA	Good
8	Textured ceiling material	C-1, 100, 101, 102, 103, 111, 112	Surf.	1700 SF	Damaged

Legend: Misc = Miscellaneous                      TSI = Thermal System Insulation                      Surf. = Surfacing material

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 220

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
1	12"x12" non-asbestos containing floor tile with asbestos-containing mastic, tan	110	25 SF	Remove/replace
2	Joint compound associated with gypsum wallboard	110	20 SF	Repair
3	Transite-type wall panels	112	60 SF	Remove
8	Textured ceiling material	112	10 SF	Remove/replace

*Abatement Comments: None*

### **Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 220

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged 12"x12" floor tile and mastic, tan	110	CAPE 2000	CNSY-220-01-01-QC CNSY-220-01-01 CNSY-220-01-02 * CNSY-220-01-03	NAD (T), 10% CHR (M) NAD (T), 4% CHR (M) NAD (T), NA (M) NAD (T), NA (M)	Yes
2	Damaged joint compound with associated gypsum wallboard	110	CAPE 2000	CNSY-220-02-01 CNSY-220-02-02 CNSY-220-02-03	NAD NAD 2% CHR (JC)	Yes
3	Damaged transite-type wall panels	112	CAPE 2000	CNSY-220-03-01 CNSY-220-03-02 CNSY-220-03-02	35 % CHR NA NA	Yes
4	Pipe fitting insulation on steam lines	104, 106	CAPE 2000	CNSY-220-04-01 CNSY-220-04-02 CNSY-220-04-03	2 % CHR, 4 % AMO NA NA	Yes
5	Damaged window putty	Exterior windows	CAPE 2000	CNSY-220-05-01-QC CNSY-220-05-01 CNSY-220-05-02 CNSY-220-05-03	<1% by Point Count NAD Trace 0.25% by Point Count NAD	No
6	Exhaust duct insulation	112	CAPE 2000	CNSY-220-06-01 CNSY-220-06-02 CNSY-220-06-03	NAD NAD NAD	No
7	Pipe insulation on steam lines	109	CAPE 2000	CNSY-220-07-01-QC CNSY-220-07-01 CNSY-220-07-02 CNSY-220-07-03	NAD NAD NAD NAD	No

**Legend:** NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed      AMO = Amosite  
(T) = Floor tile      (M) = Mastic      (JC) = Joint Compound

\* The floor tile from this sample was analyzed by "Chatfield TEM Method."

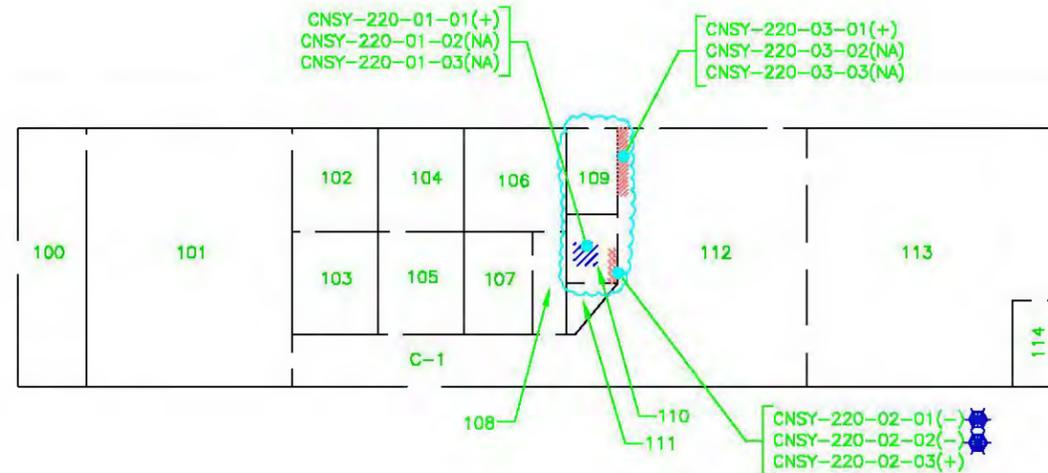
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
8	Textured ceiling material	C-1, 100-103, 111, 112	CAPE/2000	CNSY-220-08-01 CNSY-220-08-02 CNSY-220-08-03 CNSY-220-08-04 CNSY-220-08-05	5% CHR NAD NAD NAD NAD	Yes

Legend: NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed      AMO = Amosite  
(T) = Floor tile      (M) = Mastic      (JC) = Joint Compound

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 200 - FLOOR PLAN**

SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED - FLOORS AND WALLS

- DAMAGED NON-ASBESTOS-CONTAINING FLOOR COVERING AND ASBESTOS CONTAINING MASTIC
- DAMAGED TRANSITE-TYPE WALL PANELS
- DAMAGED JOINT COMPOUND ASSOCIATED WITH GYPSUM WALLBOARD
- LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL

**NOTE**

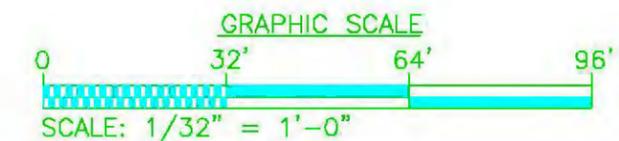
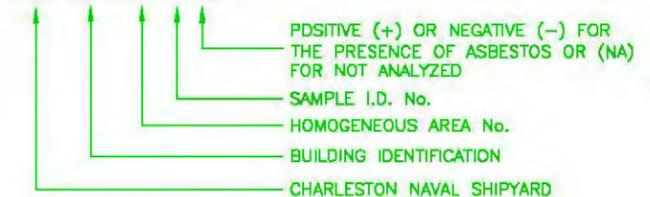
NO FRIABLE ASBESTOS-CONTAINING ROOFING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**SYMBOLS**

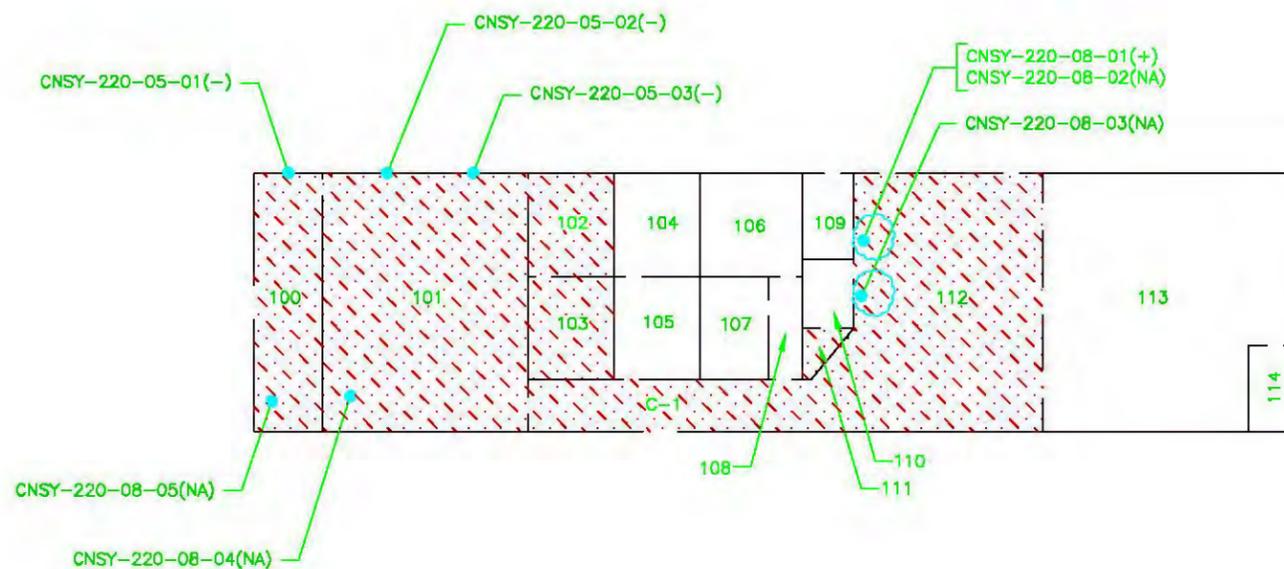
- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).
- THIS SAMPLE'S ANALYSIS RESULT IS NEGATIVE; HOWEVER, AT LEAST ONE OTHER SAMPLE'S ANALYSIS RESULT OF SAME HOMOGENEOUS MATERIAL IS POSITIVE. THEREFORE ENTIRE HOMOGENEOUS MATERIAL IS CONSIDERED POSITIVE FOR ASBESTOS CONTENT.

**TYPICAL CAPE SAMPLE I.D. No.**

CNSY-220-01-01(+)



	DATE APPROVD	PREP BY	REV. DESCRIPTION	NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CHARLESTON, S.C.	DEPARTMENT OF THE NAVY
				A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC BUILDING 200 - FLOOR PLAN (FLOORS AND WALLS)	
				ED FOR COMMANDER, NAVFAC	
				APPROVED	
				DATE	
				OFFICER IN CHARGE	
				DATE	
				APPROVED	
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**BUILDING 220 – FLOOR PLAN**  
SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED – CEILING AND MISCELLANEOUS

 TEXTURED CEILING MATERIAL

 LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL

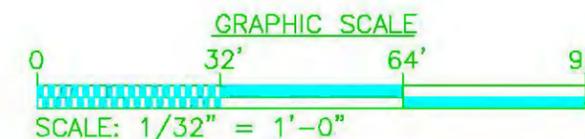
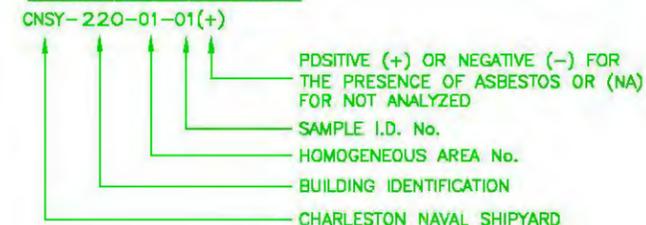
**NOTE**

NO FRIABLE ASBESTOS-CONTAINING MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

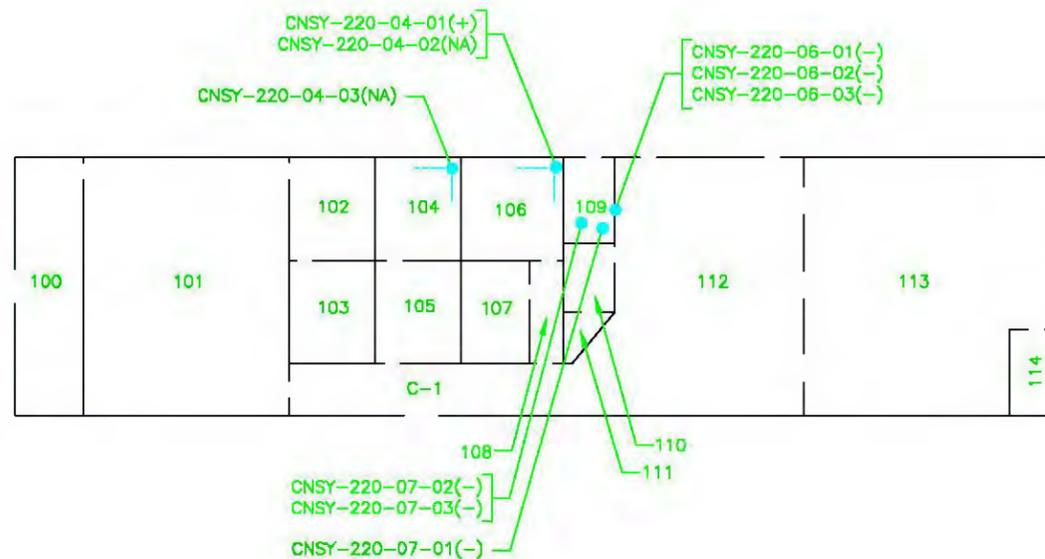
**SYMBOLS**

-  LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

**TYPICAL CAPE SAMPLE I.D. No.**



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROV	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA				ATLANTA
CHARLESTON, S.C.	ISSN				GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	DATE				DIR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	OFFICER IN CHARGE				DIR
BUILDING 220 – FLOOR PLAN	DATE				DIR
(CEILING AND MISCELLANEOUS)	DATE				DIR
APPROVED	DATE				DIR
SEAL AREA	DATE				DIR
CODE ID No.	SIZE				DIR
FED DRAWING NO.					DIR
STA. PROJ. NO.					DIR
CAPE PRL No. 00008.008.000					DIR
SPEC. NO. N/A					DIR
CONSTRN. CNTR. NO.					DIR
N62487-98-0-1012					DIR
NAVFAC DRAWING NO.					DIR
N/A					DIR
SHEET 2 OF 2					DIR
220ASB-2					DIR



**BUILDING 200 – FLOOR PLAN**  
SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED – THERMAL SYSTEMS  
INSULATION (T.S.I.)

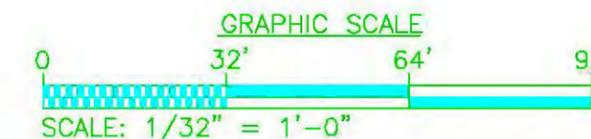
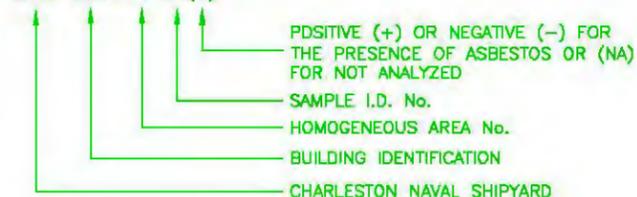
----- ASBESTOS-CONTAINING PIPE FITTING INSULATION  
ON FIBERGLASS INSULATED RUNS

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

**TYPICAL CAPE SAMPLE I.D. No.**

CNSY-220-01-01(+)



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REVISION	DATE	APPROVED
SOUTHERN DIVISION	ATLANTA	PREP BY	DATE	OFFICER IN CHARGE
CHARLESTON, S.C.	GEORGIA			
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY				
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC				
BUILDING 200 – FLOOR PLAN				
(THERMAL SYSTEM INSULATION)				
SEAL AREA	DATE	DATE	DATE	DATE
APPROVED	ED FOR COMMANDER, NAVFAC	APPROVED	APPROVED	APPROVED
CODE ID No.	SIZE	B		
FED DRAWING NO.				
STA. PROJ. NO.				
CAPE PROJ. No.	00008.008.000			
SPEC. NO.	N/A			
CONSTRN. CNTR. NO.	N62487-98-0-1012			
NAVFAC DRAWING NO.	N/A			
SHEET 3	OF 2			
220ASB-3				

## **PART 3**

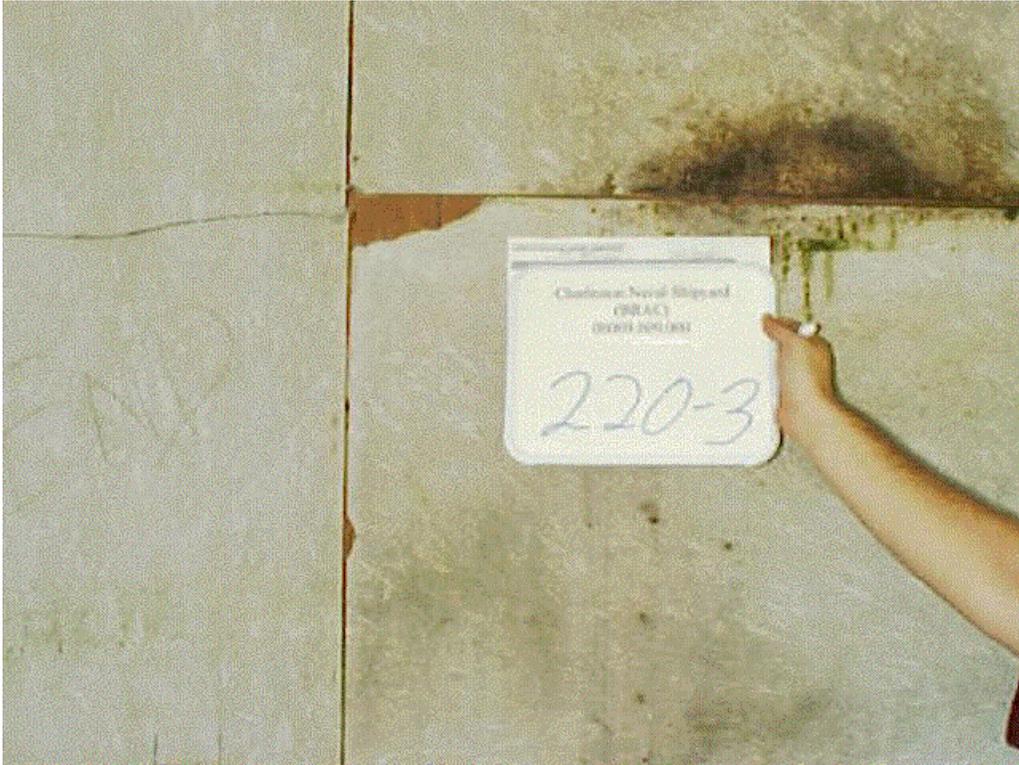
### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged 12"x12" floor tile and mastic, tan	110	YES



HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged joint compound with associated gypsum wallboard	110	YES



HA #	Material Description	Material Location	ACM (YES/NO)
3	Damaged transite-type wall panels	112	YES



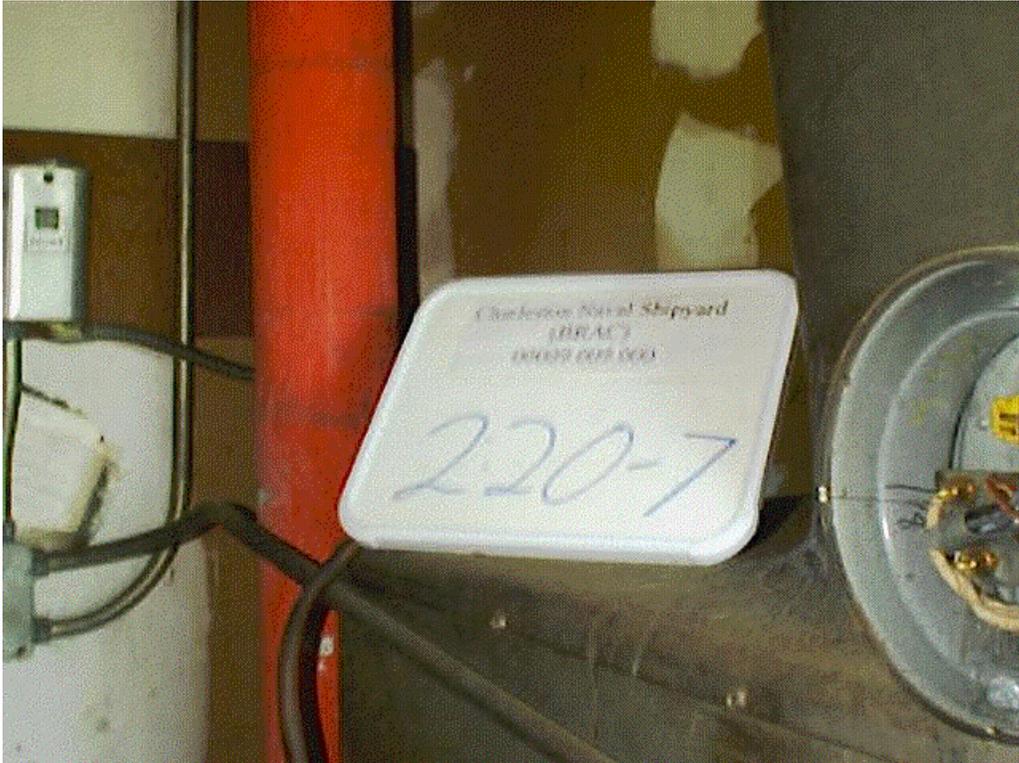
HA #	Material Description	Material Location	ACM (YES/NO)
4	Pipe fitting insulation on steam lines	104, 106	YES



HA #	Material Description	Material Location	ACM (YES/NO)
5	Damaged window putty	Exterior windows	NO



HA #	Material Description	Material Location	ACM (YES/NO)
6	Exhaust duct insulation	112	NO



HA #	Material Description	Material Location	ACM (YES/NO)
7	Pipe insulation on steam lines	109	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>
3 DAYS <input type="checkbox"/>	5 DAYS <input type="checkbox"/>
NEED BY:	
INSTRUCTIONS:	ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>

SAMPLE ID		SAMPLE ID	
1	CNSY-220-01-01	16	CNSY-220-06-01
2	CNSY-220-01-02	17	CNSY-220-06-02
3	CNSY-220-01-03	18	CNSY-220-06-03
4	CNSY-220-02-01	19	CNSY-220-07-01
5	CNSY-220-02-02	20	CNSY-220-07-02
6	CNSY-220-02-03	21	CNSY-220-07-03
7	CNSY-220-03-01	22	
8	CNSY-220-03-02	23	
9	CNSY-220-03-03	24	
10	CNSY-220-04-01	25	
11	CNSY-220-04-02	26	
12	CNSY-220-04-03	27	
13	CNSY-220-05-01	28	
14	CNSY-220-05-02	29	
15	CNSY-220-05-03	30	

SPECIAL INSTRUCTIONS:

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RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-2  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/5/00

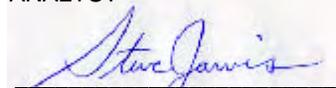
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7304-1	CNSY-220-01-01		1 (of 2)	BEIGE HARD RESILIENT TO GRANULAR (FT)				30 AGGREGATES 70 OTHER
7304-2	CNSY-220-01-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		4 CHRYSOTILE	2 CELLULOSE	80 BITUMEN 14 OTHER
7305	CNSY-220-01-02		1 (of 2)	BEIGE HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED		1 CELLULOSE	30 AGGREGATES 69 OTHER
7306	CNSY-220-01-03		1 (of 2)	BEIGE HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED			30 AGGREGATES 70 OTHER
7307	CNSY-220-02-01		1+2 (of 2)	1. GRAY SOFT FIBROUS WITH PAINT; 2. LIGHT GRAY HARD SILTY WITH FIBERS			40 CELLULOSE	60 OTHER
7308	CNSY-220-02-02		1+2 (of 2)	1. GRAY SOFT FIBROUS WITH PAINT; 2. LIGHT GRAY HARD SILTY WITH FIBERS			30 CELLULOSE	70 OTHER

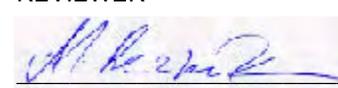
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/5/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-2  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/5/00

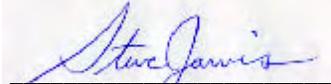
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7309	CNSY-220-02-03		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS	2% CHRYSOTILE IN JOINT COMPOUND	<1 CHRYSOTILE	30 CELLULOSE	2 MICA/ VERMICULITE 68 OTHER
7310	CNSY-220-03-01		1 (of 1)	GRAY HARD CEMENTITIOUS TO FIBROUS		35 CHRYSOTILE		10 AGGREGATES 55 OTHER
7311	CNSY-220-03-02			NOT ANALYZED	NOT ANALYZED			
7312	CNSY-220-03-03			NOT ANALYZED	NOT ANALYZED			
7313	CNSY-220-04-01		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT		2 CHRYSOTILE 4 AMOSITE	40 CELLULOSE	54 OTHER
7314	CNSY-220-04-02			NOT ANALYZED	NOT ANALYZED			
7315	CNSY-220-04-03			NOT ANALYZED	NOT ANALYZED			
7316	CNSY-220-05-01		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 WOLLASTONITE	99 OTHER

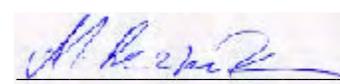
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/5/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-2  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/5/00

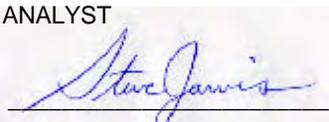
REPORT ISSUED: 9/12/00  
 PAGE: 3 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7317	CNSY-220-05-02		1 (of 1)	GRAY HARD SILTY WITH PAINT		<1 CHRYSOTILE	1 CELLULOSE 1 WOLLASTONITE 1 TALC	97 OTHER
7318	CNSY-220-05-03		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 CELLULOSE 1 WOLLASTONITE 1 TALC	97 OTHER
7319	CNSY-220-06-01		1 (of 1)	TAN AND WHITE HARD SILTY WITH MICA			2 CELLULOSE	3 MICA/ VERMICULITE 95 OTHER
7320	CNSY-220-06-02		1 (of 1)	TAN AND WHITE HARD SILTY			2 CELLULOSE	5 MICA/ VERMICULITE 93 OTHER
7321	CNSY-220-06-03		1 (of 1)	TAN AND WHITE HARD SILTY			2 CELLULOSE	5 MICA/ VERMICULITE 93 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/5/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-2  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/5/00

REPORT ISSUED: 9/12/00  
 PAGE: 4 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7322	CNSY-220-07-01		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			10 CELLULOSE 20 GLASS FIBERS 10 SYNTHETICS	60 OTHER
7323	CNSY-220-07-02		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			15 CELLULOSE 20 GLASS FIBERS 10 SYNTHETICS	55 OTHER
7324	CNSY-220-07-03		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			10 CELLULOSE 15 GLASS FIBERS 5 SYNTHETICS	70 OTHER
9928	CNSY-220-08-01		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH PAINT AND PERLITE GRANULES		<b>5 CHRYSOTILE</b>	2 WOLLASTONITE	3 MICA/ VERMICULITE 15 PERLITE 75 OTHER
9929	CNSY-220-08-02			NOT ANALYZED	NOT ANALYZED			
9930	CNSY-220-08-03			NOT ANALYZED	NOT ANALYZED			

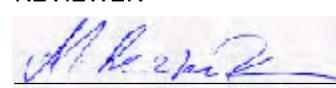
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/14/00

ANALYST



ANGELIQUE BEAUFORD

REVIEWER



ALEKSEY REZNIK

## POLARIZED LIGHT MICROSCOPY (PLM) BULK SAMPLES ANALYSIS REPORT

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0179  
DATE RECEIVED: 8/14/00  
DATE ANALYZED: 8/14/00

REPORT ISSUED: 9/12/00  
PAGE: 5 of 5

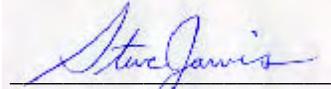
**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9931	CNSY-220-08-04			NOT ANALYZED	NOT ANALYZED			
9932	CNSY-220-08-05			NOT ANALYZED	NOT ANALYZED			

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.

FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/14/00

ANALYST



ANGELIQUE BEAUFORD

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.****3945 LAKEFIELD COURT****SUWANEE, GA 30024****(770) 866-3200****Client: Cape Environmental Management****Job Name: Charleston****Job Number: 00009.009.000****Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

# **BUILDING 658**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 658**  
**DESCRIPTION: Barracks**

Building 658 is a three-story structure totaling 32,207 square feet. The building was constructed in 1965.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged 9"x9" floor tile and mastic, white	111, 112, 113, 118, 119, 310, 311, 312, 320, 302, 309	Misc	280 SF	Damaged
2	Damaged 12"x12" asbestos-containing floor tile with non-asbestos containing mastic, white	121, 122	Misc	40 SF	Damaged

Legend: Misc = Miscellaneous

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**FACILITY NO.: 658**

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
1	9"x9" floor tile and mastic, white	111-113, 118, 119, 310, 311, 312, 320, 302, 309	280 SF	Remove/replace
2	12"x12" asbestos-containing floor tile with non-asbestos containing mastic, white	121, 122	40 SF	Remove/replace

*Abatement Comments: None*

***Non-Damaged/Friable ACM:***

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

**FACILITY NO.: 658**

**SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:**

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged 9"x9" floor tile and mastic, white	111-113, 118, 119, 310, 311, 312, 320, 302, 309	CAPE 2000	CNSY-658-01-01-QC CNSY-658-01-01 CNSY-658-01-02 CNSY-658-01-03	10 % CHR (T), 10% CHR (M) 6 % CHR (T), 3% CHR (M) NA NA	Yes
2	Damaged 12"x12" floor tile and mastic, white	121, 122	CAPE 2000	CNSY-658-02-01 CNSY-658-02-02 CNSY-658-02-03	4 % CHR (T), NAD (M) NA (T), NAD (M) NA (T), NAD (M)	Yes
3	2'x2' ceiling tile, pinhole grooved	101-120, 123, 124, C1, 201-224, Corr. (2 <sup>nd</sup> floor), 228, 301-324, 329, Corr. (3 <sup>rd</sup> floor)	CAPE 2000	CNSY-658-03-01 CNSY-658-03-02 CNSY-658-03-03	NAD NAD NAD	No
4	2'x2' ceiling tile, star pattern	121, 122	CAPE 2000	CNSY-658-04-01-QC CNSY-658-04-01 CNSY-658-04-02 CNSY-658-04-03	NAD NAD NAD NAD	No
5	2'x2' ceiling tile, smooth	118, 222-224	CAPE 2000	CNSY-658-05-01 CNSY-658-05-02 CNSY-658-05-03	NAD NAD NAD	No
6	2'x4' ceiling tile, pinhole grooved	225, 326	CAPE 2000	CNSY-658-06-01 CNSY-658-06-02 CNSY-658-06-03	NAD NAD NAD	No
7	Damaged plaster ceiling	227	CAPE 2000	CNSY-658-07-01 CNSY-658-07-02 CNSY-658-07-03	NAD NAD NAD	No

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
8	Damaged plaster wall	U-1	CAPE 2000	CNSY-658-08-01 CNSY-658-08-02 CNSY-658-08-03	NAD NAD NAD	No
9	Soil	Crawlspace	CAPE 2000	CNSY-658-09-01 CNSY-658-09-02 CNSY-658-09-03 CNSY-658-09-04 CNSY-658-09-05 CNSY-658-09-06 CNSY-658-09-07	NAD NAD NAD NAD NAD NAD NAD	No

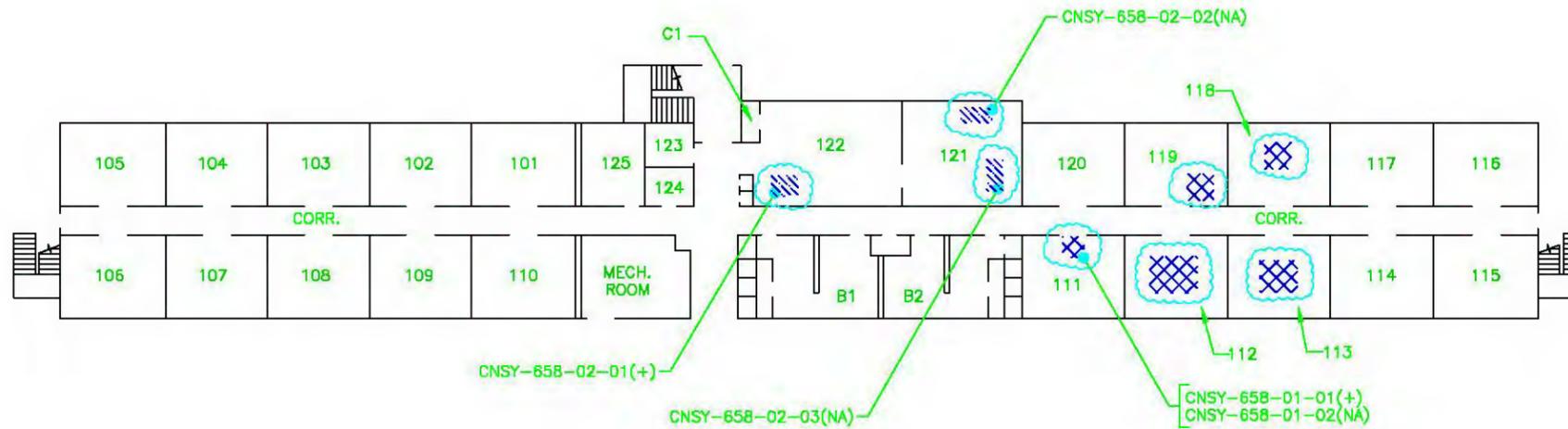
Legend: NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed  
 AMO = Amosite      (T) = Floor tile      (M) = Mastic

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**





**BUILDING 658 - FIRST FLOOR PLAN**  
SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM) IDENTIFIED - FLOORS AND WALLS

-  DAMAGED ASBESTOS-CONTAINING FLOOR COVERING AND MASTIC
-  DAMAGED ASBESTOS-CONTAINING FLOOR COVERING AND NON-ASBESTOS CONTAINING MASTIC
-  LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL.

**NOTE**

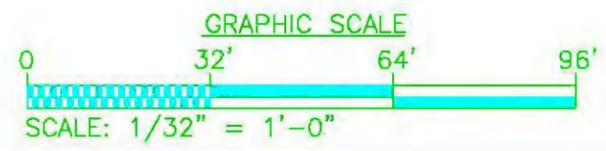
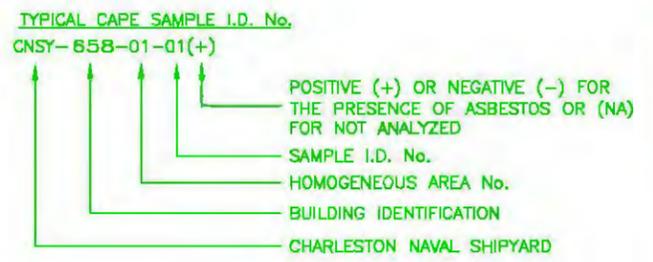
NO FRIABLE ASBESTOS-CONTAINING WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**NOTE**

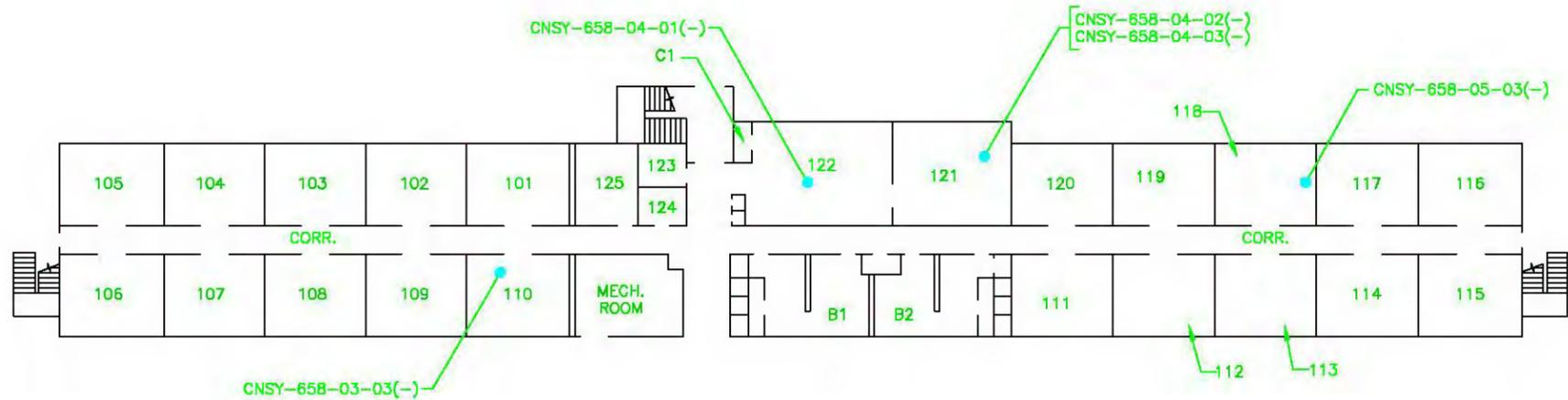
NO FRIABLE ASBESTOS-CONTAINING ROOFING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**SYMBOLS**

-  LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	ATLANTA	DATE APPROVD
SOUTHERN DIVISION	CHARLESTON, S.C.	GEORGIA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR	PREP BY
BUILDING 658 - FIRST FLOOR PLAN (FLOORS AND WALLS)		DIR	DATE
APPROVED		DIR	OFFICER IN CHARGE
SEAL AREA		DIR	
CODE ID No.	SIZE	DIR	
FED DRAWING NO.		DIR	
STA. PROJ. NO.		DIR	
CAPE PROJ. No. 00008.008.000		DIR	
SPEC. NO. N/A		DIR	
CONSTRN. CNTR. NO.		DIR	
N62487-98-0-1012		DIR	
NAVFAC DRAWING NO.		DIR	
N/A		DIR	
SHEET 2	OF 10	DIR	
658ASB-2		DIR	



**BUILDING 658 - FIRST FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"



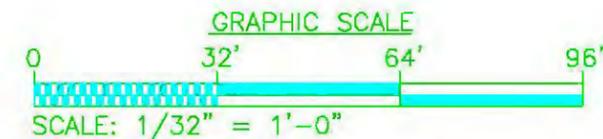
**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

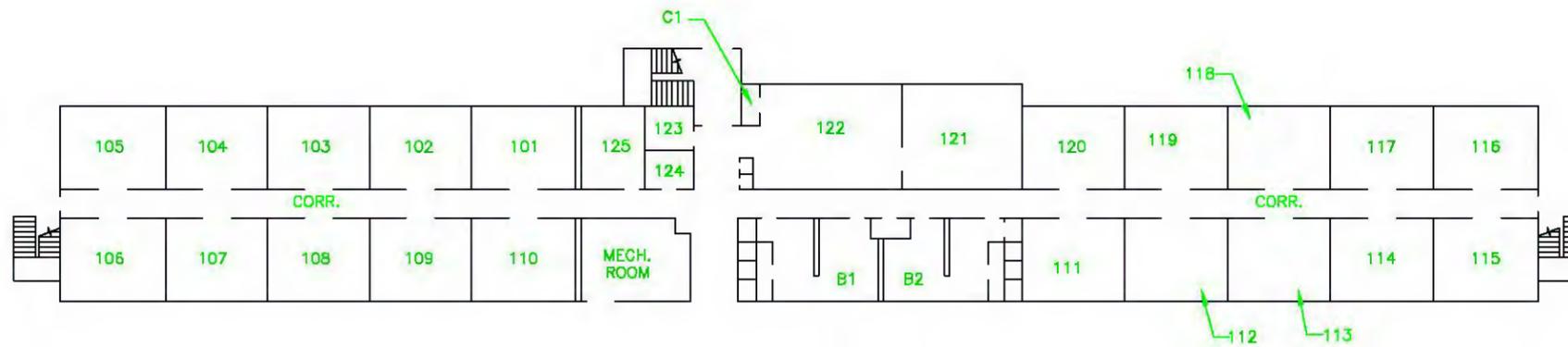
- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL

TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-658-01-01(+)

- ↑ POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- ↑ SAMPLE I.D. No.
- ↑ HOMOGENEOUS AREA No.
- ↑ BUILDING IDENTIFICATION
- ↑ CHARLESTON NAVAL SHIPYARD



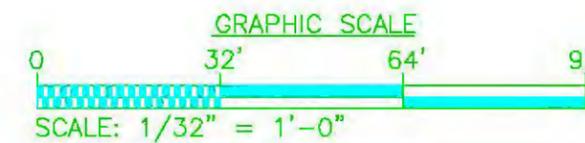
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DATE	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR
BUILDING 658 - FIRST FLOOR PLAN (CEILING AND MISCELLANEOUS)		DIR CHRIS
APPROVED	DATE	SUBMITTED BY (FIRM MEMBER-TITLE)
ED FOR COMMANDER, NAVFAC	OFFICER IN CHARGE	EDC
APPROVED	DATE	BR 110
		DIR
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N62487-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET 3	OF 18	
858ASB-3		



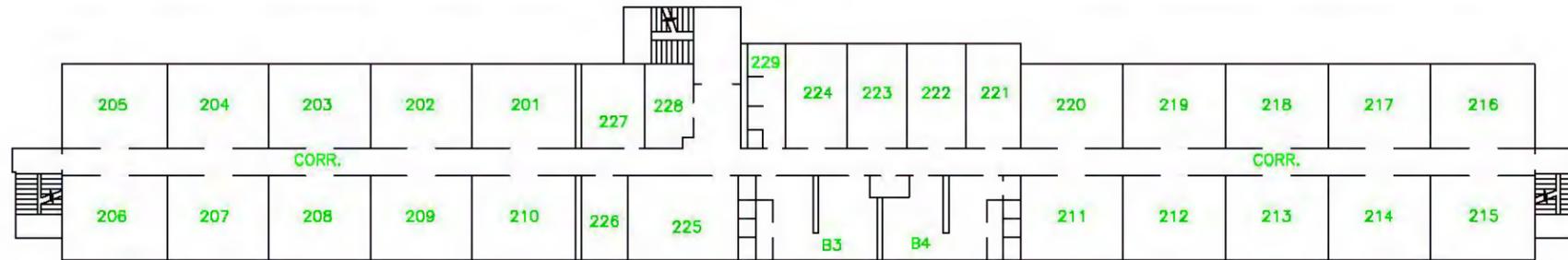
**BUILDING 658 - FIRST FLOOR PLAN**  
 SCALE: 1/32" = 1'-0" 

**NOTE**

NO FRIABLE ASBESTOS-CONTAINING THERMAL SYSTEM INSULATION MATERIALS WERE IDENTIFIED ON THIS FLOOR.



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		CHARLESTON, S.C.		ATLANTA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		GEORGIA	
BUILDING 658 - FIRST FLOOR PLAN		(THERMAL SYSTEM INSULATION)		DIR	
APPROVED		DATE		DATE	
SEAL AREA		OFFICER IN CHARGE		DATE	
CODE ID No.	SIZE	DATE		DATE	
FED DRAWING NO.		DATE		DATE	
STA. PROJ. NO.		DATE		DATE	
CAPE PROJ. No. 00008.008.000		DATE		DATE	
SPEC. NO. N/A		DATE		DATE	
CONSTRN. CNTR. NO. N62487-98-0-1012		DATE		DATE	
NAVFAC DRAWING NO. N/A		DATE		DATE	
SHEET 4	OF 10	DATE		DATE	
658ASB-4		DATE		DATE	



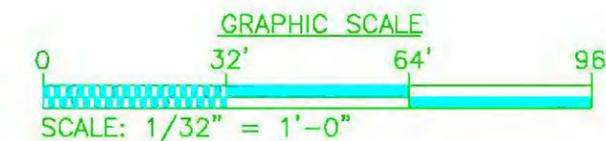
BUILDING 658 - SECOND FLOOR PLAN

SCALE: 1/32" = 1'-0"

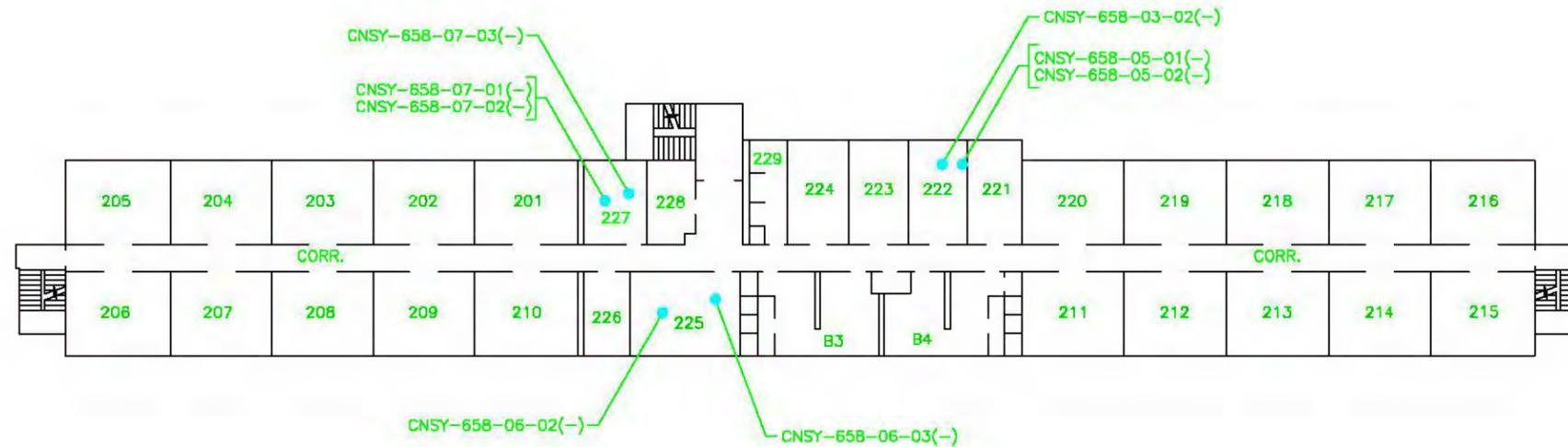


NOTE

NO FRIABLE ASBESTOS-CONTAINING FLOOR COVERING OR WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROVD	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA				ATLANTA
CHARLESTON, S.C.					GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY					DIR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC					DIR CRIDS
BUILDING 658 - SECOND FLOOR PLAN					SUPV. PERFORMANCE ENGR
(FLOORS AND WALLS)					SUBMITTED BY (FIRM MEMBER-TITLE)
					EDC
					BR 110
					DIR
APPROVED	DATE	DATE	DATE	OFFICER IN CHARGE	PFE
SEAL AREA					
CODE ID No.	SIZE				
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PRL No. 00008.008.000					
SPEC. NO. N/A					
CONSTRN. CNTR. NO. N62487-98-0-1012					
NAVFAC DRAWING NO. N/A					
SHEET 8 OF 10					
658ASB-5					

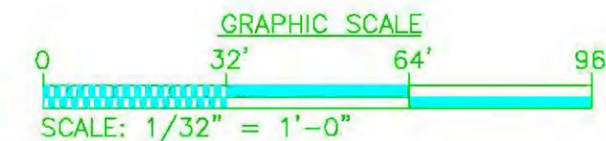


**BUILDING 658 - SECOND FLOOR PLAN**  
 SCALE: 1/32" = 1'-0" 

TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-658-01-01(+)

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POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED  
 SAMPLE I.D. No.  
 HOMOGENEOUS AREA No.  
 BUILDING IDENTIFICATION  
 CHARLESTON NAVAL SHIPYARD

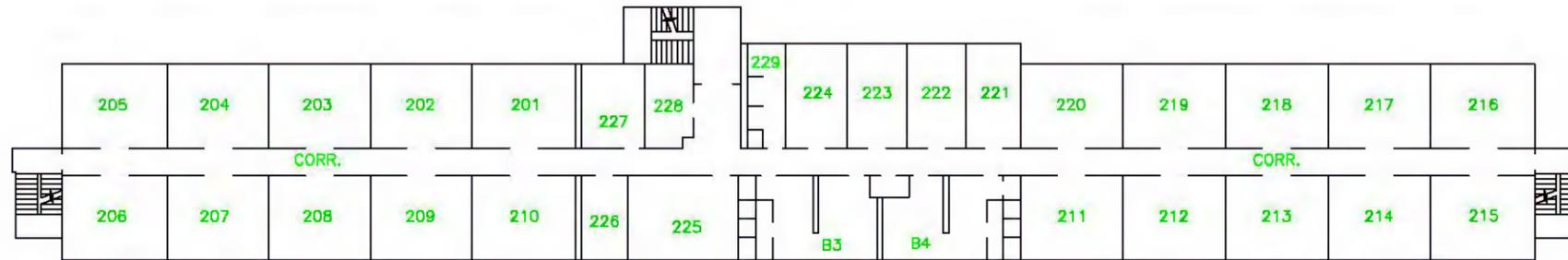


**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

● LOCATION OF SAMPLES COLLECTED  
 (-) NON-ASBESTOS-CONTAINING MATERIAL

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	ATLANTA	DATE APPROVD	PREP BY	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.	GEORGIA			
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR			DIR
BUILDING 658 - SECOND FLOOR PLAN (CEILING AND MISCELLANEOUS)		SUPV. PERFORMANCE ENGR			DIR
APPROVED	DATE	EDD			DIR
SEAL AREA	EDD FOR COMMANDER, NAVFAC	OFFICER IN CHARGE			DIR
CODE ID No.	SIZE				
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PRL. No. 00008.008.000					
SPEC. NO. N/A					
CONSTRN. CNTR. NO. N62487-98-0-1012					
NAVFAC DRAWING NO. N/A					
SHEET #	OF 18				
658ASB-8					



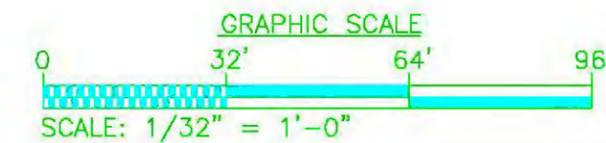
**BUILDING 658 – SECOND FLOOR PLAN**

SCALE: 1/32" = 1'-0"

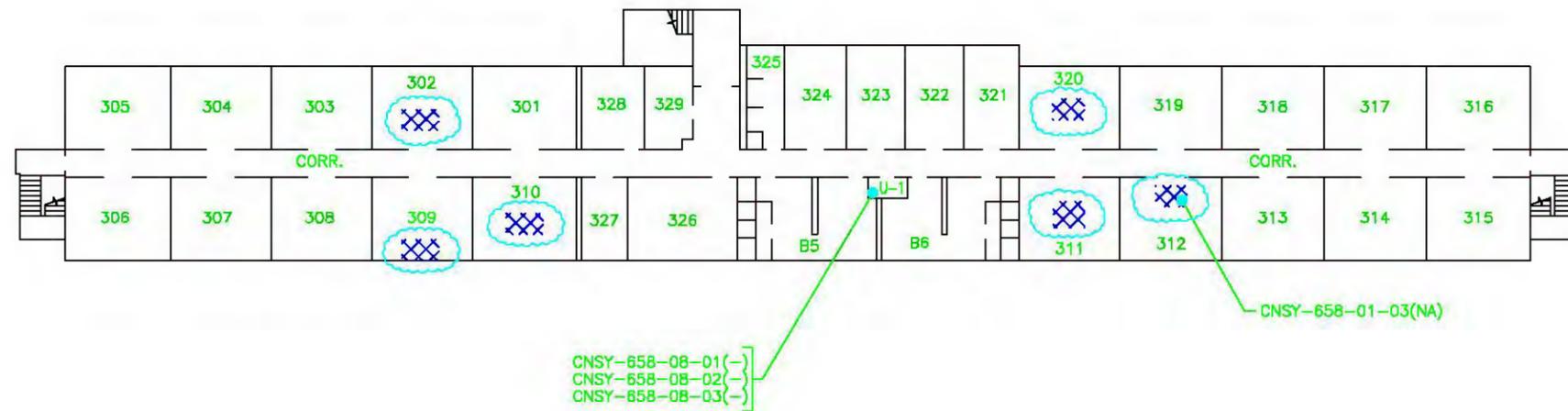


**NOTE**

NO FRIABLE ASBESTOS-CONTAINING THERMAL SYSTEM INSULATION MATERIALS WERE IDENTIFIED ON THIS FLOOR.



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		CHARLESTON, S.C.		ATLANTA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		GEORGIA	
BUILDING 658 – SECOND FLOOR PLAN		(THERMAL SYSTEM INSULATION)		DIR	
APPROVED		DATE		DATE	
SEAL AREA		OFFICER IN CHARGE		DATE	
CODE ID No.	SIZE	PREP BY		DATE APPROVD	
FED DRAWING NO.		DATE		DATE	
STA. PROJ. NO.		DATE		DATE	
CAPE PROJ. No. 00008.008.000		DATE		DATE	
SPEC. NO. N/A		DATE		DATE	
CONSTRN. CNTR. NO. N62487-98-0-1012		DATE		DATE	
NAVFAC DRAWING NO. N/A		DATE		DATE	
SHEET 7 OF 18		DATE		DATE	
658ASB-7		DATE		DATE	



**BUILDING 658 – THIRD FLOOR PLAN**

SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED – FLOORS AND WALLS

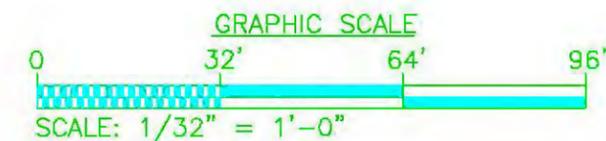
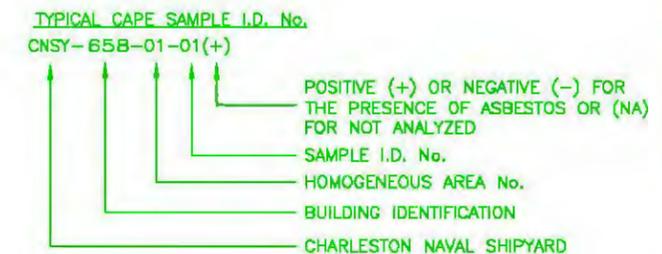
-  DAMAGED ASBESTOS-CONTAINING FLOOR TILE AND MASTIC
-  LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL.

**NOTE**

NO FRIABLE ASBESTOS-CONTAINING WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

-  LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	ATLANTA	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.	GEORGIA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		DIR	DIR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR	DIR
BUILDING 658 – THIRD FLOOR PLAN		DIR	DIR
(FLOORS AND WALLS)		DIR	DIR
DATE	DATE	DATE	DATE
APPROVED	APPROVED	APPROVED	APPROVED
SEAL AREA	SEAL AREA	SEAL AREA	SEAL AREA
CODE ID No.	SIZE	DATE	DATE
FED DRAWING NO.			
STA. PROJ. NO.			
CAPE PROJ. No. 00008.008.000			
SPEC. NO. N/A			
CONSTRN. CNTR. NO.			
N62487-98-0-1012			
NAVFAC DRAWING NO.			
N/A			
SHEET 8	OF 10		
658ASB-8			





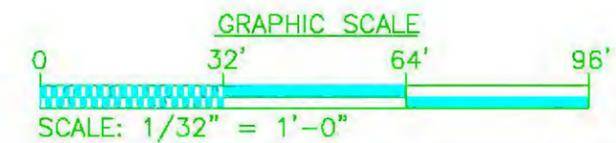
**BUILDING 658 – THIRD FLOOR PLAN**

SCALE: 1/32" = 1'-0"



**NOTE**

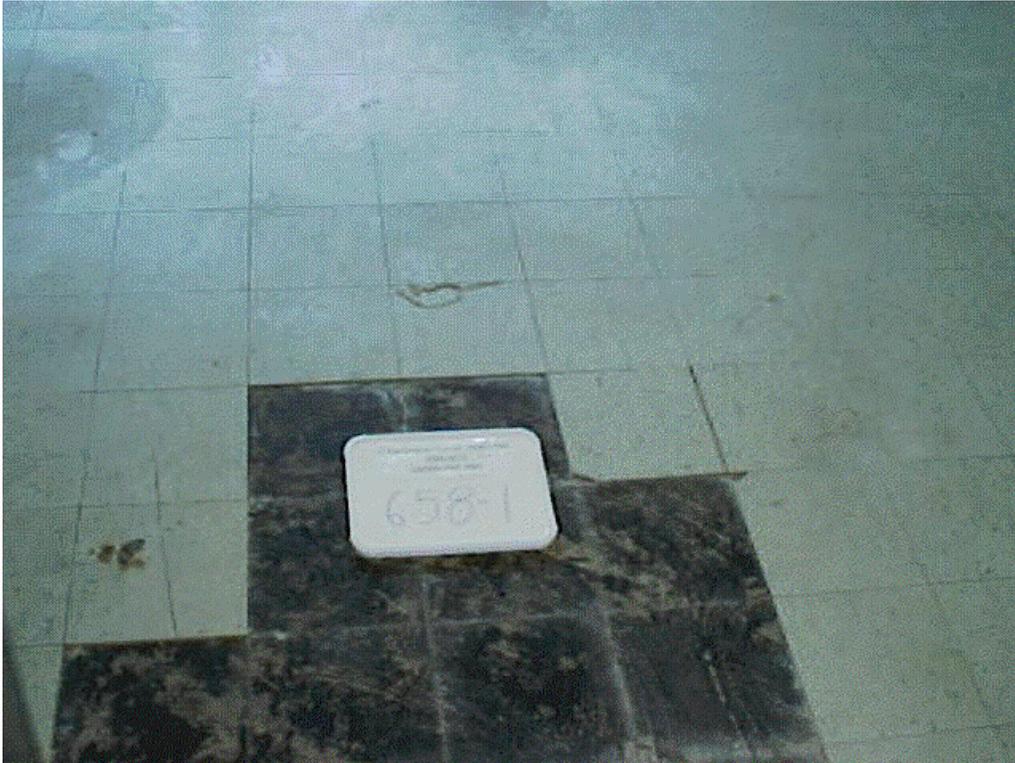
NO FRIABLE ASBESTOS-CONTAINING THERMAL SYSTEM INSULATION MATERIALS WERE IDENTIFIED ON THIS FLOOR.



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROV	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.				ATLANTA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY					GEORGIA
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC					DRK
BUILDING 658 – THIRD FLOOR PLAN					DR CRIDS
(THERMAL SYSTEM INSULATION)					SUPV. PERFORMANCE ENGR
					SUBMITTED BY (FIRM MEMBER-TITLE)
					EDC
					BR 110
					DRK
APPROVED	DATE	DATE	DATE	OFFICER IN CHARGE	PFE
SEAL AREA					
CODE ID No.	SIZE				
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PROJ. No.	00008.008.000				
SPEC. NO.	N/A				
CONSTRN. CNTR. NO.	N62487-98-0-1012				
NAVFAC DRAWING NO.	N/A				
SHEET 10	OF 10				
658ASB-10					

## **PART 3**

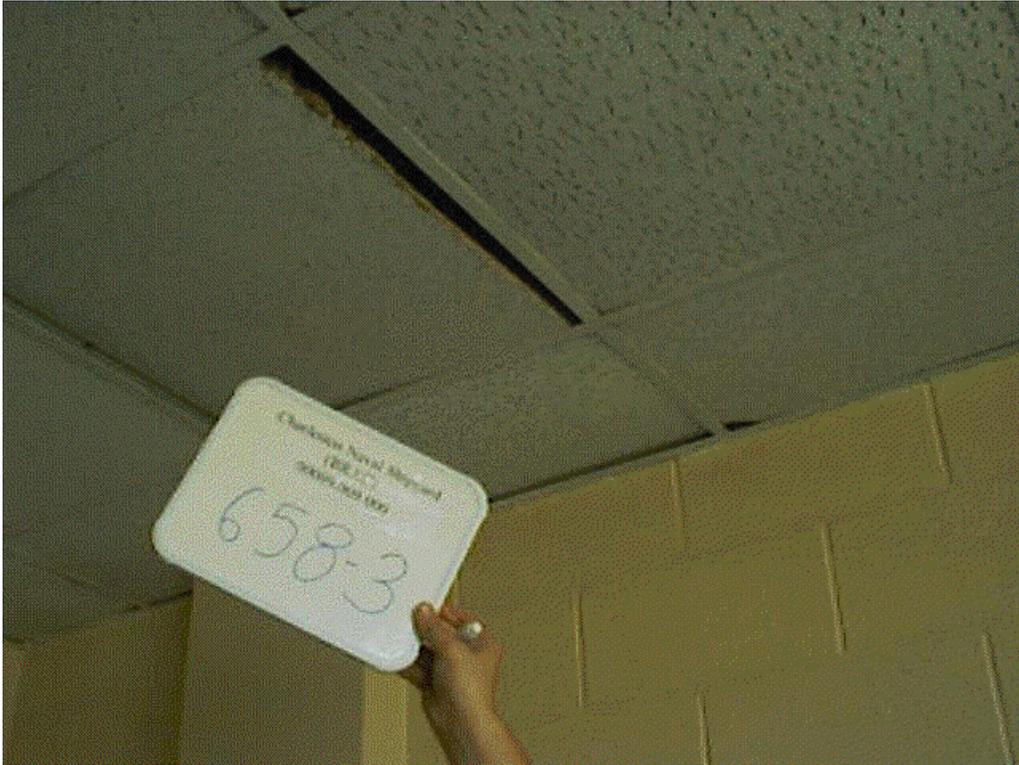
### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged 9"x 9" floor tile and mastic, white	111-113, 118, 119, 310, 311, 312, 320, 302, 309	<b>YES</b>



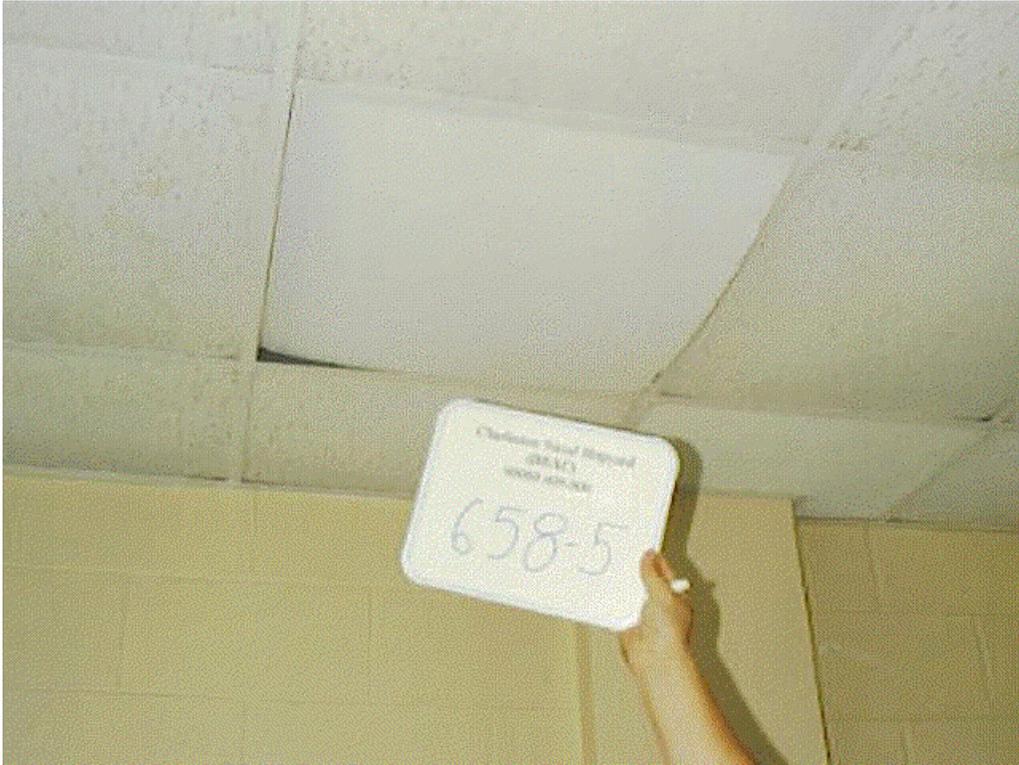
HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged 12"x12" floor tile and mastic, white	121, 122	YES



HA #	Material Description	Material Location	ACM (YES/NO)
3	2'x2' ceiling tile, pinhole grooved	101-120, 123, 124, C1, 201-224, Corr. (2 <sup>nd</sup> floor), 228, 301-324, 329, Corr. (3 <sup>rd</sup> floor)	NO



HA #	Material Description	Material Location	ACM (YES/NO)
4	2'x2' ceiling tile, star pattern	121, 122	NO



HA #	Material Description	Material Location	ACM (YES/NO)
5	2'x2' ceiling tile, smooth	118, 222-224	NO



HA #	Material Description	Material Location	ACM (YES/NO)
6	2'x4' ceiling tile, pinhole grooved	225, 326	NO



HA #	Material Description	Material Location	ACM (YES/NO)
7	Damaged plaster ceiling	227	NO



HA #	Material Description	Material Location	ACM (YES/NO)
8	Damaged plaster wall	B5	NO



HA #	Material Description	Material Location	ACM (YES/NO)
9	Soil	Crawlspace	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER: <input type="checkbox"/>
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID		SAMPLE ID	
1	CNSY-658-01-01	16	CNSY-658-06-01
2	CNSY-658-01-02	17	CNSY-658-06-02
3	CNSY-658-01-03	18	CNSY-658-06-03
4	CNSY-658-02-01	19	CNSY-658-07-01
5	CNSY-658-02-02	20	CNSY-658-07-02
6	CNSY-658-02-03	21	CNSY-658-07-03
7	CNSY-658-03-01	22	CNSY-658-08-01
8	CNSY-658-03-02	23	CNSY-658-08-02
9	CNSY-658-03-03	24	CNSY-658-08-03
10	CNSY-658-04-01	25	
11	CNSY-658-04-02	26	
12	CNSY-658-04-03	27	
13	CNSY-658-05-01	28	
14	CNSY-658-05-02	29	
15	CNSY-658-05-03	30	

SPECIAL INSTRUCTIONS:

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RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: Cape Environmental

CLIENT NAME: S. Div. PROJECT MANAGER: J. Hernandez.

PROJECT NAME: Charleston NSY PROJECT NUMBER: 00009.009.000

ANALYSIS REQUESTED: PLM  OTHER:

TURNAROUND TIME SAME DAY  NEXT DAY  3 DAYS  5 DAYS  NEED BY:  
 REQUESTED:

INSTRUCTIONS: ANALYZE ALL  STOP POSITIVE

SAMPLE ID		SAMPLE ID
1	<u>CNSY-NS658-9-01</u>	16
2	<u>-9-02</u>	17
3	<u>-9-03</u>	18
4	<u>-9-04</u>	19
5	<u>-9-05</u>	20
6	<u>-9-06</u>	21
7	<u>-9-07</u>	22
8		23
		24
10		25
11		26
12		27
13		28
14		29
15		30

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: MB RECEIVED BY: [Signature]

DATE: 5/22/00 TIME: 0745 DATE: 5/22/00 TIME: 10:00 AM

RELINQUISHED BY: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/6/00

REPORT ISSUED: 9/12/00  
 PAGE: 1 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7325-1	CNSY-658-01-01		1 (of 2)	GRAY AND GREEN HARD RESILIENT TO GRANULAR (FT)		6 CHRYSOTILE		30 AGGREGATES 64 OTHER
7325-2	CNSY-658-01-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		3 CHRYSOTILE	1 CELLULOSE	80 BITUMEN 16 OTHER
7326	CNSY-658-01-02			NOT ANALYZED	NOT ANALYZED			
7327	CNSY-658-01-03			NOT ANALYZED	NOT ANALYZED			
7328-1	CNSY-658-02-01		1 (of 3)	YELLOW SEMI-HARD SILTY			2 CELLULOSE	95 MASTIC 3 OTHER
7328-2	CNSY-658-02-01		2 (of 3)	OFF-WHITE HARD RESILIENT TO GRANULAR (FT)		4 CHRYSOTILE		30 AGGREGATES 66 OTHER
7328-3	CNSY-658-02-01		3 (of 3)	BLACK SOFT BITUMINOUS WITH FIBERS			3 CELLULOSE	85 BITUMEN 12 OTHER
7329-1	CNSY-658-02-02		1 (of 3)	YELLOW SEMI-HARD SILTY	LAYER 2: NOT ANALYZED		1 CELLULOSE	95 MASTIC 4 OTHER

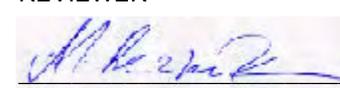
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/6/00

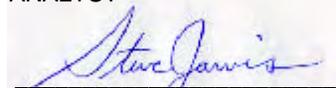
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7329-2	CNSY-658-02-02		3 (of 3)	BLACK SOFT BITUMINOUS WITH FIBERS			3 CELLULOSE	90 BITUMEN 7 OTHER
7330	CNSY-658-02-03		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: OFF-WHITE FLOOR TILE = NOT ANALYZED		2 CELLULOSE	95 BITUMEN 3 OTHER
7331	CNSY-658-03-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 35 GLASS FIBERS	20 PERLITE 10 OTHER
7332	CNSY-658-03-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7333	CNSY-658-03-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 35 GLASS FIBERS	20 PERLITE 10 OTHER
7334	CNSY-658-04-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH GLUE AND PAINT			30 CELLULOSE 25 GLASS FIBERS	5 MASTIC 30 PERLITE 10 OTHER

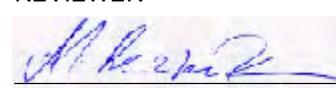
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/6/00

REPORT ISSUED: 9/12/00  
 PAGE: 3 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7335	CNSY-658-04-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH GLUE AND PAINT			25 CELLULOSE 30 GLASS FIBERS	5 MASTIC 30 PERLITE 10 OTHER
7336	CNSY-658-04-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7337	CNSY-658-05-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7338	CNSY-658-05-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7339	CNSY-658-05-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 25 GLASS FIBERS	35 PERLITE 10 OTHER
7340	CNSY-658-06-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7341	CNSY-658-06-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER

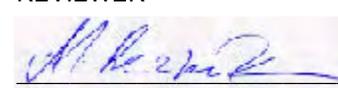
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/6/00

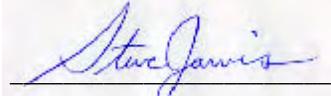
REPORT ISSUED: 9/12/00  
 PAGE: 4 of 5

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7342	CNSY-658-06-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 25 GLASS FIBERS	35 PERLITE 10 OTHER
7343	CNSY-658-07-01		1 (of 1)	WHITE HARD SILTY WITH AGGREGATES AND PAINT			5 GLASS FIBERS	5 AGGREGATES 90 OTHER
7344	CNSY-658-07-02		1 (of 1)	WHITE HARD SILTY WITH AGGREGATES AND PAINT			1 CELLULOSE 1 GLASS FIBERS	5 AGGREGATES 93 OTHER
7345	CNSY-658-07-03		1 (of 1)	WHITE HARD SILTY WITH AGGREGATES, PAINT, BITUMEN, AND DEBRIS			1 CELLULOSE	3 BITUMEN 7 AGGREGATES 89 OTHER
7346	CNSY-658-08-01		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD CEMENTITIOUS TO GRANULAR			1 CELLULOSE	30 AGGREGATES 69 OTHER
7347	CNSY-658-08-02		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD CEMENTITIOUS TO GRANULAR			1 CELLULOSE 1 SYNTHETICS	30 AGGREGATES 68 OTHER

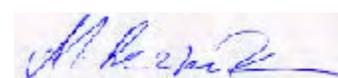
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

## POLARIZED LIGHT MICROSCOPY (PLM) BULK SAMPLES ANALYSIS REPORT

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
DATE RECEIVED: 5/30/00  
DATE ANALYZED: 6/6/00

REPORT ISSUED: 9/12/00  
PAGE: 5 of 5

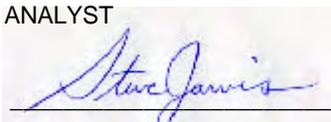
**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7348	CNSY-658-08-03		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD CEMENTITIOUS TO GRANULAR			1 CELLULOSE	30 AGGREGATES 69 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.

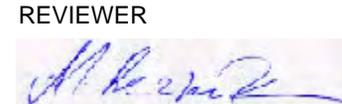
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**BUILDING 1079**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 1079**  
**DESCRIPTION: Storage**

Building 1079 is a single-story structure totaling 42,370 square feet. The building was constructed in 1985.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in August 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

*No friable ACM was identified in this building.*

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM.

*No damaged friable ACM was identified in this building.*

Abatement Comments: N/A

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 1079

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Damaged gypsum ceiling associated with joint compound	102	CAPE 2000	CNSY-1079-01-01 CNSY-1079-01-02 CNSY-1079-01-03	NAD NAD NAD	No
2	Spray-applied fire proofing material	Throughout building	CAPE 2000	CNSY-1079-02-01 CNSY-1079-02-02 CNSY-1079-02-03 CNSY-1079-02-04 CNSY-1079-02-05 CNSY-1079-02-06 CNSY-1079-02-07	NAD NAD NAD NAD NAD NAD NAD	No
3	Damaged 12"x12" floor tile and mastic, brown	101, 102	CAPE 2000	*CNSY-1079-03-01-QC CNSY-1079-03-01 CNSY-1079-03-02 CNSY-1079-03-03	NAD NAD NAD NAD	No

Legend NAD = No Asbestos Detected

\* "Chatfield TEM Method" was utilized to analyze the floor tile from this sample

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	Damaged gypsum ceiling with associated joint compound	102	No



HA #	Material Description	Material Location	ACM (YES/NO)
2	Spray-applied fire proofing material	Throughout building	No



HA #	Material Description	Material Location	ACM (YES/NO)
3	Damaged 12" x 12" floor tile and mastic, brown	101, 102	No

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: *CAPE* *Juan Hockender*  
 CLIENT NAME: *SDIV* PROJECT MANAGER: *\$ Scott Bryant*  
 PROJECT NAME: *CNSY* PROJECT NUMBER: *00009.009.000*  
 ANALYSIS REQUESTED: PLM  OTHER:  
 TURNAROUND TIME SAME DAY  NEXT DAY  3 DAYS  5 DAYS   
 REQUESTED:  
 INSTRUCTIONS: ANALYZE ALL  STOP POSITIVE

SAMPLE ID		SAMPLE ID
1	<i>CNSY-1079-1-01</i>	16
2	<i>" - 02</i>	17
3	<i>" - 03</i>	18
4	<i>" - 2-01</i>	19
5	<i>" - 02</i>	20
6	<i>" - 03</i>	21
7	<i>" - 04</i>	22
8	<i>" - 05</i>	23
9	<i>" - 06</i>	24
10	<i>" - 07</i>	25
11	<i>" - 3-01</i>	26
12	<i>" - 02</i>	27
13	<i>" - 03</i>	28
14		29
15		30

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: <i>Brian Downes</i>	RECEIVED BY: <i>[Signature]</i>
DATE: <i>8-11-00</i> TIME: <i>10:00 AM</i>	DATE: <i>8/11/00</i> TIME: <i>10:00</i>
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178  
 DATE RECEIVED: 8/11/00  
 DATE ANALYZED: 8/14/00

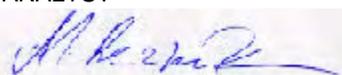
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 3

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9870	CNSY-1079-1-01		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C); 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			25 CELLULOSE 2 GLASS FIBERS	2 MICA/ VERMICULITE 71 OTHER
9871	CNSY-1079-1-02		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C); 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			20 CELLULOSE 3 GLASS FIBERS	2 MICA/ VERMICULITE 75 OTHER
9872	CNSY-1079-1-03		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C); 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			20 CELLULOSE 2 GLASS FIBERS	2 MICA/ VERMICULITE 76 OTHER
9873	CNSY-1079-2-01		1 (of 1)	TAN SOFT POWDERY TO FIBROUS TO PLATY			10 CELLULOSE 5 GLASS FIBERS	45 MICA/ VERMICULITE 40 OTHER
9874	CNSY-1079-2-02		1 (of 1)	TAN SOFT POWDERY TO FIBROUS TO PLATY			15 CELLULOSE 5 GLASS FIBERS	40 MICA/ VERMICULITE 40 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/14/00

ANALYST



ALEKSEY REZNIK

REVIEWER



STEVE JARVIS

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178  
 DATE RECEIVED: 8/11/00  
 DATE ANALYZED: 8/14/00

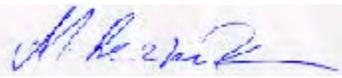
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 3

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9875	<b>CNSY-1079-2-03</b>		1 (of 1)	TAN SOFT POWDERY TO FIBROUS TO PLATY			15 CELLULOSE 5 GLASS FIBERS	50 MICA/ VERMICULITE 30 OTHER
9876	<b>CNSY-1079-2-04</b>		1 (of 1)	TAN SOFT POWDERY TO FIBROUS TO PLATY			15 CELLULOSE 5 GLASS FIBERS	55 MICA/ VERMICULITE 25 OTHER
9877	<b>CNSY-1079-2-05</b>		1 (of 1)	TAN SOFT POWDERY TO FIBROUS TO PLATY			20 CELLULOSE 5 GLASS FIBERS	40 MICA/ VERMICULITE 35 OTHER
9878	<b>CNSY-1079-2-06</b>		1 (of 1)	TAN SOFT POWDERY TO FIBROUS TO PLATY			20 CELLULOSE 5 GLASS FIBERS	45 MICA/ VERMICULITE 30 OTHER
9879	<b>CNSY-1079-2-07</b>		1 (of 1)	TAN SOFT POWDERY TO FIBROUS TO PLATY			20 CELLULOSE 5 GLASS FIBERS	40 MICA/ VERMICULITE 35 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/14/00

ANALYST



ALEKSEY REZNIK

REVIEWER



STEVE JARVIS

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0178  
 DATE RECEIVED: 8/11/00  
 DATE ANALYZED: 8/14/00

REPORT ISSUED: 9/12/00  
 PAGE: 3 of 3

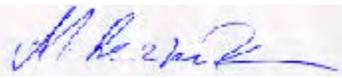
**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
9880	CNSY-1079-3-01		1 (of 1)	BROWN HARD RESILIENT TO GRANULAR (FT) WITH BLACK MASTIC			1 CELLULOSE 1 SYNTHETICS	2 BITUMEN 35 AGGREGATES 61 OTHER
9881	CNSY-1079-3-02		1 (of 1)	BROWN HARD RESILIENT TO GRANULAR (FT) WITH BLACK MASTIC			2 SYNTHETICS	3 BITUMEN 35 AGGREGATES 60 OTHER
9882	CNSY-1079-3-03		1 (of 1)	BROWN HARD RESILIENT TO GRANULAR (FT) WITH BLACK MASTIC			2 SYNTHETICS	4 BITUMEN 35 AGGREGATES 59 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.

FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 8/14/00

ANALYST



ALEKSEY REZNIK

REVIEWER



STEVE JARVIS



**Summary of Results of Analyses by  
Transmission Electron Microscopy (TEM)**

**Client Name:** Cape Environmental Management  
**Client Job Number/Name:** 00009.009.000 / CNSY  
**MAS Project Number:** M24258  
**Date:** 8/18/00  
**Analytical Protocol:** MAS SOP #MT-011, "Modified Chatfield TEM Method"

**Reviewer:**

*Will B. Gahl*

Client Sample Number	MAS Sample Number	Material	Asbestos Detected
CNSY-1079-3-01 QC	M24258-001A	Floor Tile	NAO

NAO = No Asbestos Observed

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

Client: Cape Environmental Management  
 Job Name: CNSY  
 Job Number: 00009.009.000  
 Reviewer: William B. [Signature]

Summary of Results of analysis by Polarized Light Microscopy (PLM)

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-1079-3-01 QC	M24258-001			NO ASBESTOS OBSERVED
CNSY-180-2-01 QC	M24258-002			NO ASBESTOS OBSERVED
CNSY-180-5-01 QC	M24258-003			NO ASBESTOS OBSERVED
CNSY-180-8-01 QC	M24258-004PC			Trace% Chrysotile Trace% Amosite
CNSY-180-9-01 QC	M24258-005			NO ASBESTOS OBSERVED
CNSY-180-12-01 QC	M24258-006			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**BUILDING 1509**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 1509**  
**DESCRIPTION: Storage**

Building 1509 is a single-story structure totaling 12,444 square feet. The building was constructed in 1976.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
2	Damaged window putty	Interior windows	Misc	275 LF	Damaged

Legend: Misc = Miscellaneous

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any “assumed” or “presumed” asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
2	Window putty	Interior windows	275 SF	Remove/Replace

Abatement Comments: Windows are approximately 20 feet AFF.

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties “as is” if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 1509

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

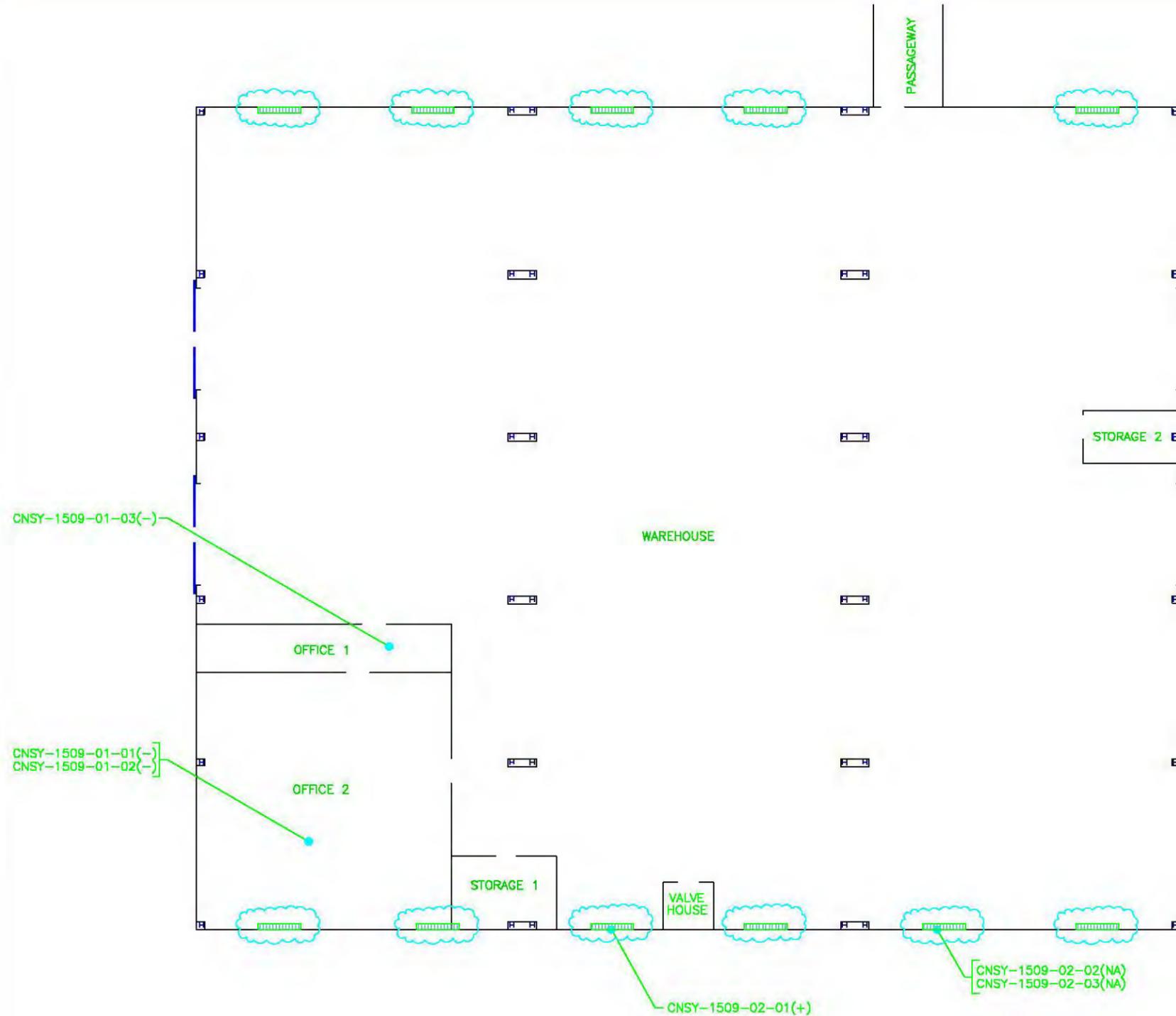
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	2'x4' ceiling tile, grooved-pinhole	Office 1, Office 2	CAPE 2000	CNSY-1509-01-01 CNSY-1509-01-02 CNSY-1509-01-03	NAD NAD NAD	No
2	Damaged window putty	Interior windows	CAPE 2000	CNSY-1509-02-01 CNSY-1509-02-02 CNSY-1509-02-03	5 % CHR NA NA	Yes

Legend: NAD = No Asbestos Detected      CHR = Chrysotile      NA = Not Analyzed

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 1509 - FLOOR PLAN**  
 SCALE: 1/16" = 1'-0"

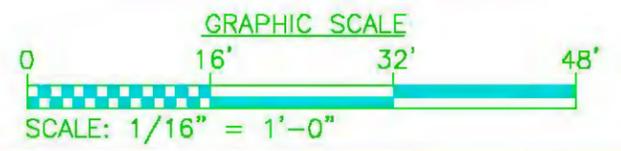
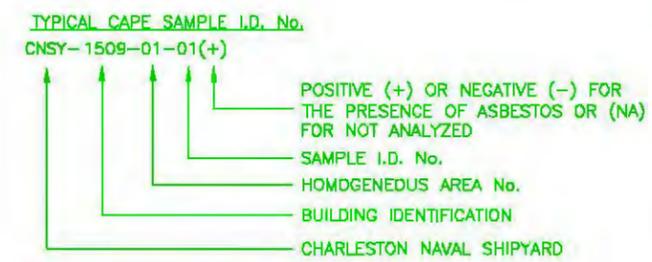


**LEGEND**  
 FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM) IDENTIFIED

-  DAMAGED ASBESTOS-CONTAINING WINDOW GLAZING
-  LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING MATERIAL.

**SYMBOLS**

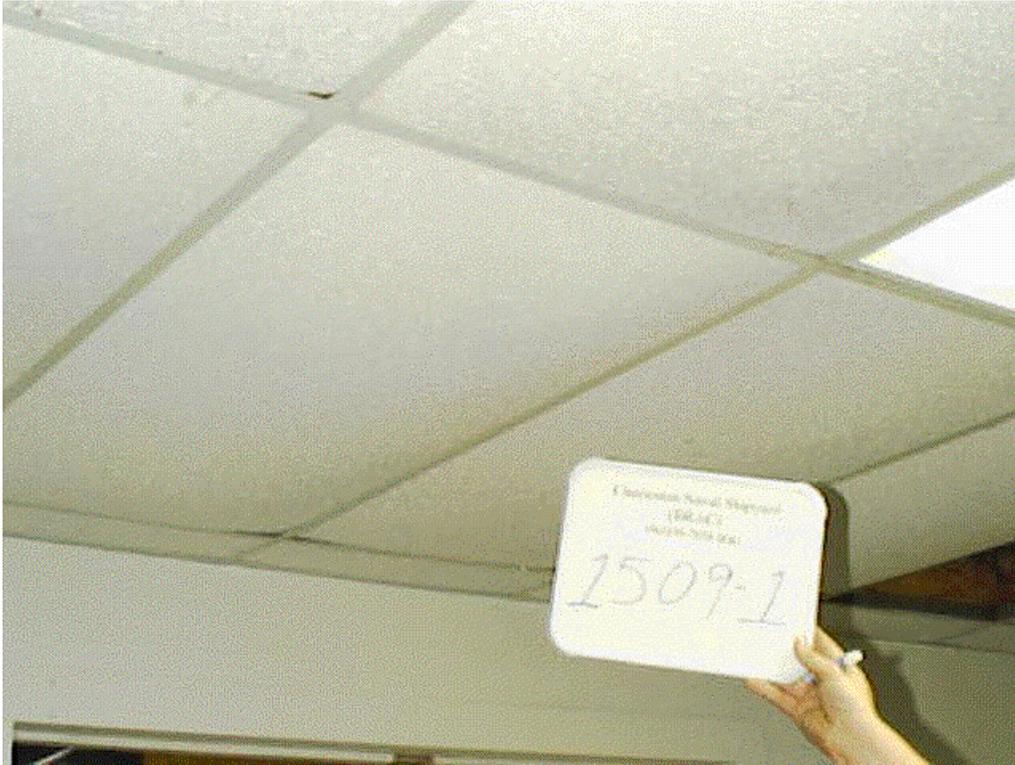
-  LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT LEAST ONE SAMPLE RESULT OF THE SAME HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES FOR EACH HA WERE ANALYZED UNTIL POSITIVE).



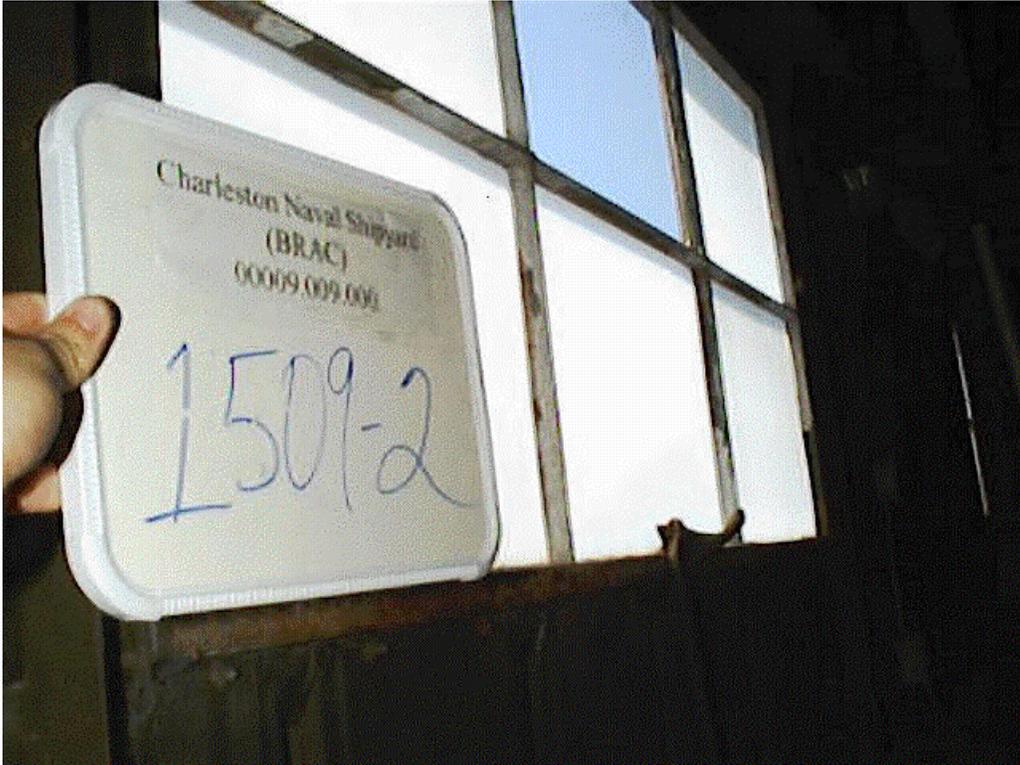
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REV. DESCRIPTION	PREP BY	DATE APPROV	CAPE ENVIRONMENTAL MANAGEMENT INC. ATLANTA
SOUTHERN DIVISION CHARLESTON, S.C.					GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC BUILDING 1509 - FLOOR PLAN					DIR CRIDS
					SUPV. PERFORMANCE ENGR
					SUBMITTED BY (FIRM MEMBER-TITLE)
					EDC
					BR 110
					DIR
APPROVED	DATE	EDT FOR COMMANDER, NAVFAC	DATE	OFFICER IN CHARGE	PFE
SEAL AREA					
CODE ID No.	SIZE				
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PROJ. No.	00008.008.000				
SPEC. NO.	N/A				
CONSTRN. CNTR. NO.	N62487-98-0-1012				
NAVFAC DRAWING NO.	N/A				
SHEET 1	OF 1				
1509ASB-1					

## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	2'x4' ceiling tile, grooved-pinhole	Office 1, Office 2	NO



HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged window putty	Interior windows	YES

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID	SAMPLE ID
1 CNSY-1509-01-01	16
2 CNSY-1509-01-02	17
3 CNSY-1509-01-03	18
4 CNSY-1509-02-01	19
5 CNSY-1509-02-02	20
6 CNSY-1509-02-03	21
7 CNSY-1777-01-01	22
8 CNSY-1777-01-02	23
9 CNSY-1777-01-03	24
10 CNSY-1884-01-01	25
11 CNSY-1884-01-02	26
12 CNSY-1884-01-03	27
13 CNSY-1892-01-01	28
14 CNSY-1892-01-02	29
15 CNSY-1892-01-03	30

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/6/00

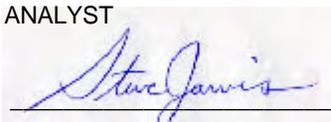
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 1

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7349	CNSY-1509-01-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 25 GLASS FIBERS	30 PERLITE 10 OTHER
7350	CNSY-1509-01-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7351	CNSY-1509-01-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7352	CNSY-1509-02-01		1 (of 1)	GRAY HARD SILTY WITH PAINT		5 CHRYSOTILE	1 WOLLASTONITE	94 OTHER
7353	CNSY-1509-02-02			NOT ANALYZED	NOT ANALYZED			
7354	CNSY-1509-02-03			NOT ANALYZED	NOT ANALYZED			

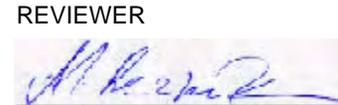
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

# **BUILDING 1777**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 1777**

**DESCRIPTION: Administration (CBU 412)**

Building 1777 is a single-story structure totaling 960 square feet. The building was constructed in 1971.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

*No friable ACM was identified in this building.*

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any “assumed” or “presumed” asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM.

*No damaged friable ACM was identified in this building.*

Abatement Comments: N/A

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties “as is” if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 1777

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

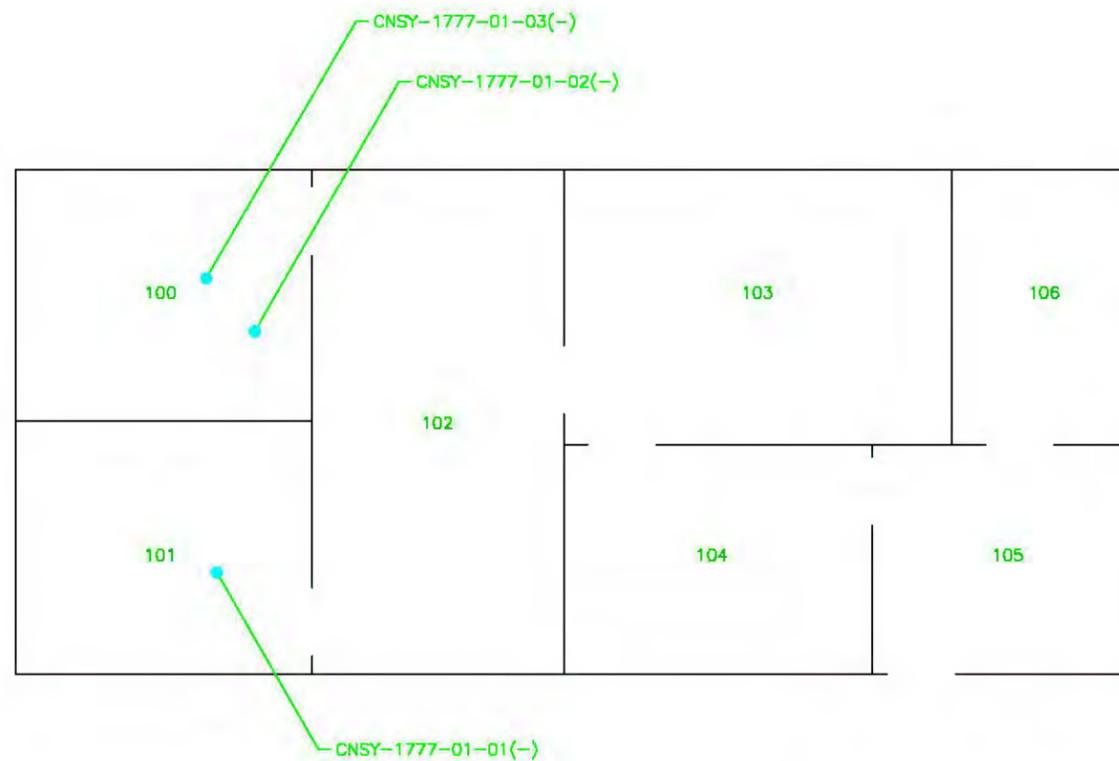
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	2'x4' ceiling tile, pinhole-fissured	100-106	CAPE 2000	CNSY-1777-01-01 CNSY-1777-01-02 CNSY-1777-01-03	NAD NAD NAD	No

Legend NAD = No Asbestos Detected

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 1777 - FLOOR PLAN**

SCALE: 1/8" = 1'-0"

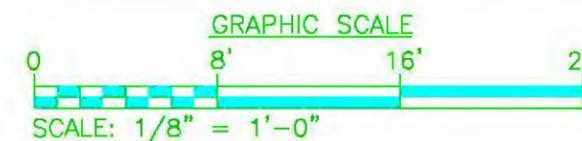
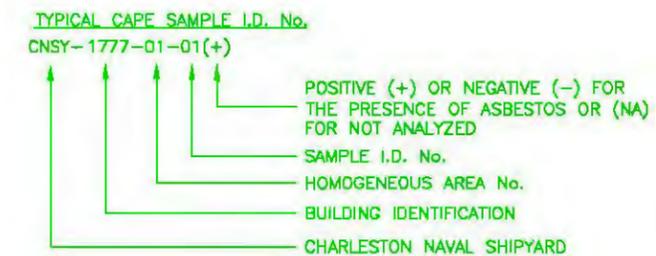


**NOTE**

NO FRIABLE ASBESTOS-CONTAINING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**SYMBOLS**

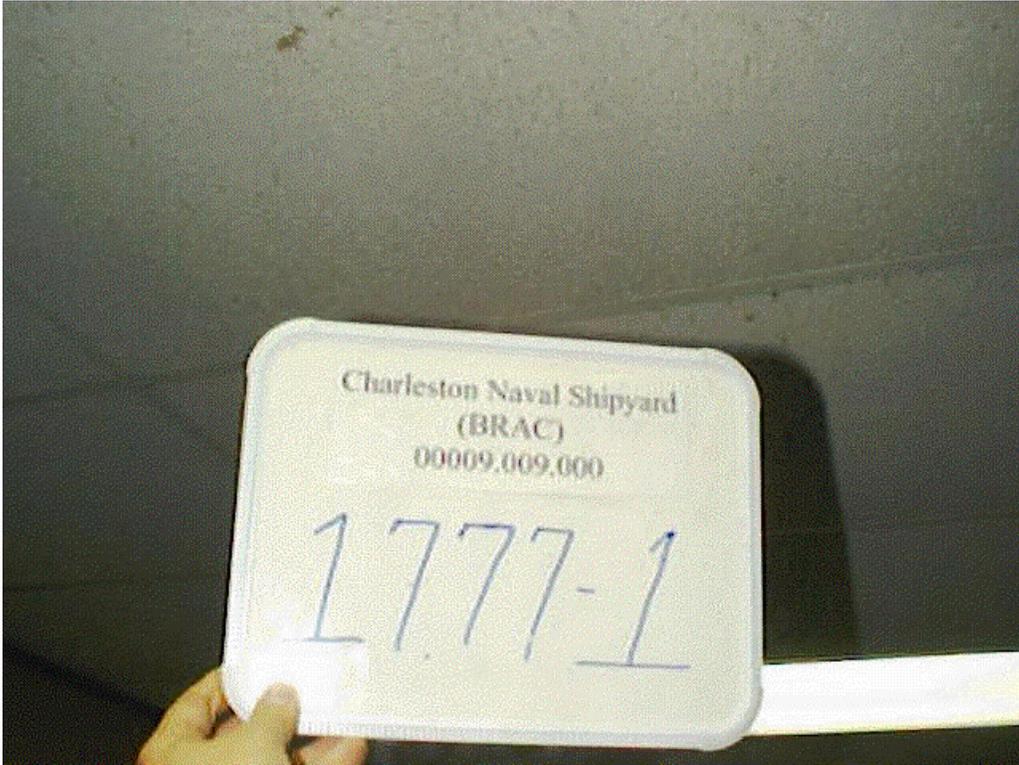
- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DATE	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	PREP BY	DIRK
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	DATE APPROVD	DIR
BUILDING 1777 - FLOOR PLAN	REV. DESCRIPTION	DIR CHRIS
		SUPV. PERFORMANCE ENGR
		SUBMITTED BY (FIRM MEMBER-TITLE)
		EDD
		BR 110
		DIR
APPROVED	DATE	OFFICER IN CHARGE
		PFE
SEAL AREA		
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N62467-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET 1	OF 1	
1777ASB-1		

## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	2'x4' ceiling tile, pinhole-fissured	100-106	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID	SAMPLE ID
1 CNSY-1509-01-01	16
2 CNSY-1509-01-02	17
3 CNSY-1509-01-03	18
4 CNSY-1509-02-01	19
5 CNSY-1509-02-02	20
6 CNSY-1509-02-03	21
7 CNSY-1777-01-01	22
8 CNSY-1777-01-02	23
9 CNSY-1777-01-03	24
10 CNSY-1884-01-01	25
11 CNSY-1884-01-02	26
12 CNSY-1884-01-03	27
13 CNSY-1892-01-01	28
14 CNSY-1892-01-02	29
15 CNSY-1892-01-03	30

SPECIAL INSTRUCTIONS:

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DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/6/00

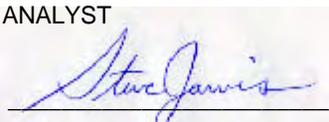
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 1

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7355	CNSY-1777-01-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 20 GLASS FIBERS	35 PERLITE 10 OTHER
7356	CNSY-1777-01-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 20 GLASS FIBERS	35 PERLITE 10 OTHER
7357	CNSY-1777-01-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 25 GLASS FIBERS	30 PERLITE 10 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

# **BUILDING 1884**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 1884**

**DESCRIPTION: Steel Shop (CBU 412)**

Building 1884 is a single-story structure totaling 1,728 square feet. The building was constructed in 1978.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

*No friable ACM was identified in this building.*

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any “assumed” or “presumed” asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM.

*No damaged friable ACM was identified in this building.*

Abatement Comments: N/A

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties “as is” if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 1884

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

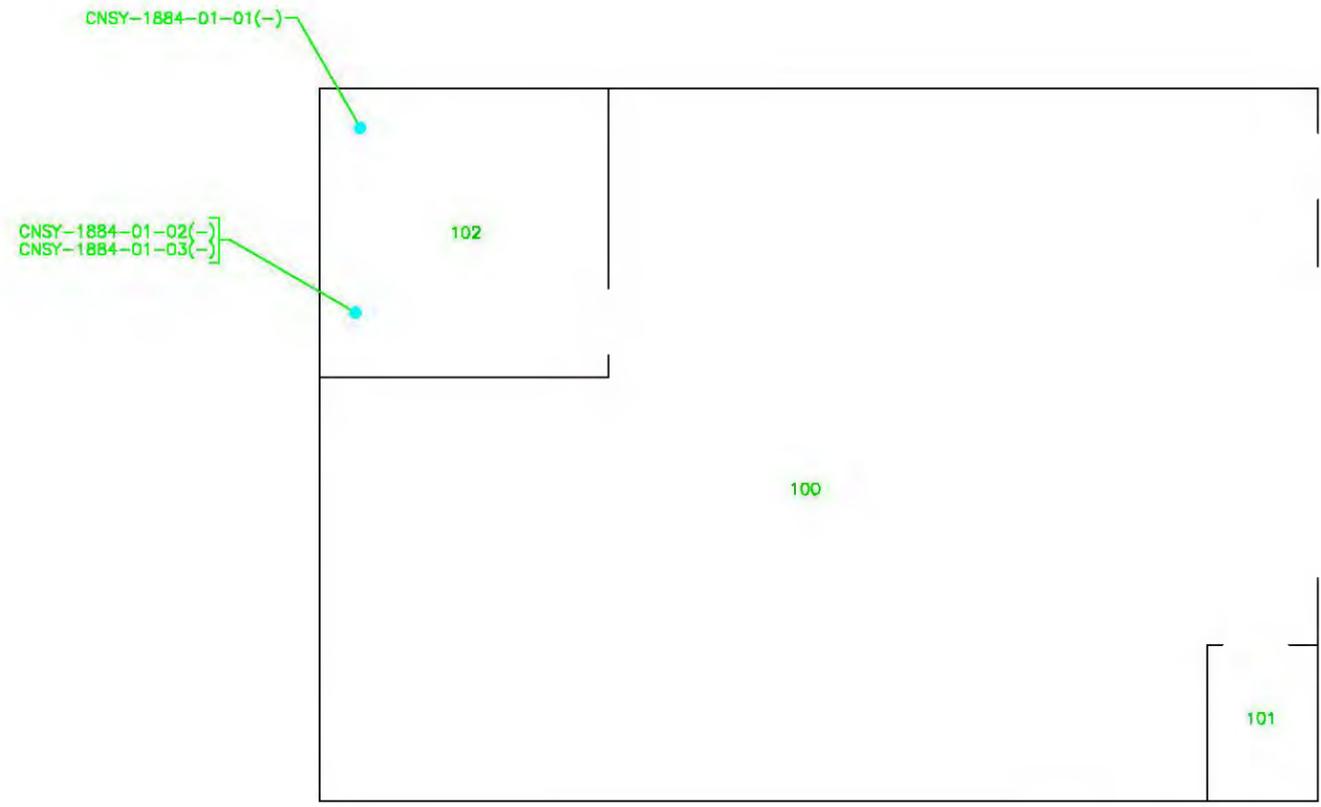
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	2'x4' ceiling tile, pinhole-fissured	102	CAPE 2000	CNSY-1884-01-01 CNSY-1884-01-02 CNSY-1884-01-03	NAD NAD NAD	No

Legend NAD = No Asbestos Detected

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**

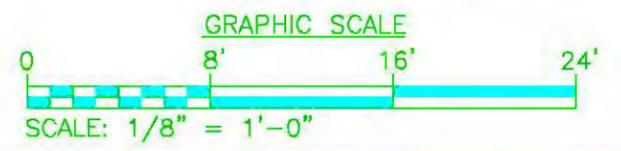
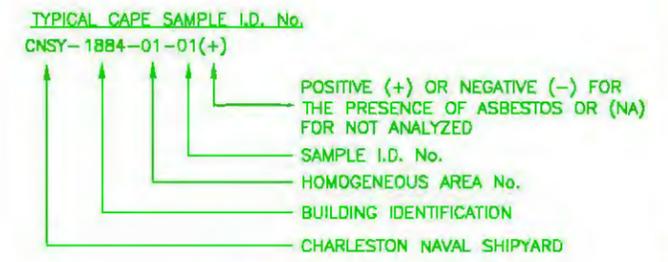


**BUILDING 1884 – FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

- SYMBOLS**
- LOCATION OF SAMPLES COLLECTED
  - (-) NON-ASBESTOS-CONTAINING MATERIAL



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		CHARLESTON, S.C.		ATLANTA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		GEORGIA	
BUILDING 1884 – FLOOR PLAN		REV. DESCRIPTION		DIR	
APPROVED	DATE	PREP BY	DATE APPROVD	EDD	DIR
EDD FOR COMMANDER, NAVFAC	APPROVED	DATE	OFFICER IN CHARGE	EDD	DIR
SEAL AREA				DIR	DIR
CODE ID No.	SIZE				
FED DRAWING NO.					
STA. PROJ. NO.					
CAPE PROJ. No. 00008.008.000					
SPEC. NO. N/A					
CONSTRN. CNTR. NO. N62467-98-0-1012					
NAVFAC DRAWING NO. N/A					
SHEET 1 OF 1					
1884ASB-1					

## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	2'x4' ceiling tile, pinhole-fissured	102	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>
3 DAYS <input type="checkbox"/>	5 DAYS <input type="checkbox"/>
NEED BY:	
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/>	STOP POSITIVE <input type="checkbox"/>

SAMPLE ID		SAMPLE ID	
1	CNSY-1509-01-01	16	
2	CNSY-1509-01-02	17	
3	CNSY-1509-01-03	18	
4	CNSY-1509-02-01	19	
5	CNSY-1509-02-02	20	
6	CNSY-1509-02-03	21	
7	CNSY-1777-01-01	22	
8	CNSY-1777-01-02	23	
9	CNSY-1777-01-03	24	
10	CNSY-1884-01-01	25	
11	CNSY-1884-01-02	26	
12	CNSY-1884-01-03	27	
13	CNSY-1892-01-01	28	
14	CNSY-1892-01-02	29	
15	CNSY-1892-01-03	30	

SPECIAL INSTRUCTIONS:

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DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/6/00

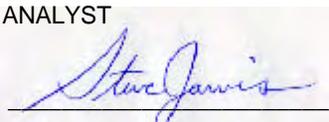
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 1

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7358	CNSY-1884-01-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			25 CELLULOSE 35 GLASS FIBERS	30 PERLITE 10 OTHER
7359	CNSY-1884-01-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			25 CELLULOSE 35 GLASS FIBERS	30 PERLITE 10 OTHER
7360	CNSY-1884-01-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

# **BUILDING 1886**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 1886**

**DESCRIPTION: General Storage (CBU 412)**

Building 1886 is a single-story structure totaling 960 square feet. The building was constructed in 1977.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

*No friable ACM was identified in this building.*

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any “assumed” or “presumed” asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM.

*No damaged friable ACM was identified in this building.*

Abatement Comments: N/A

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties “as is” if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 1886

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	2'x2' ceiling tile, pinhole-pitted	104	CAPE 2000	CNSY-1886-01-01 CNSY-1886-01-02 CNSY-1886-01-03	NAD NAD NAD	No
2	Damaged 12"x12" floor tile and mastic, grey	104	CAPE 2000	CNSY-1886-02-01-QC CNSY-1886-02-01 CNSY-1886-02-02 *CNSY-1886-02-03	NAD NAD NAD NAD	No
3	2'x4' ceiling tile, pinhole grooved	100	CAPE 2000	CNSY-1886-03-01 CNSY-1886-03-02 CNSY-1886-03-03	NAD NAD NAD	No
4	Damaged 12"x12' floor tile and mastic, blue	102	CAPE 2000	CNSY-1886-04-01-QC CNSY-1886-04-01 CNSY-1886-04-02 *CNSY-1886-04-03	NAD NAD NAD NAD	No
5	Damaged 12"x12" floor tile and mastic, brown	103	CAPE 2000	CNSY-1886-05-01-QC CNSY-1886-05-01 CNSY-1886-05-02 *CNSY-1886-05-03	NAD NAD NAD NAD	No

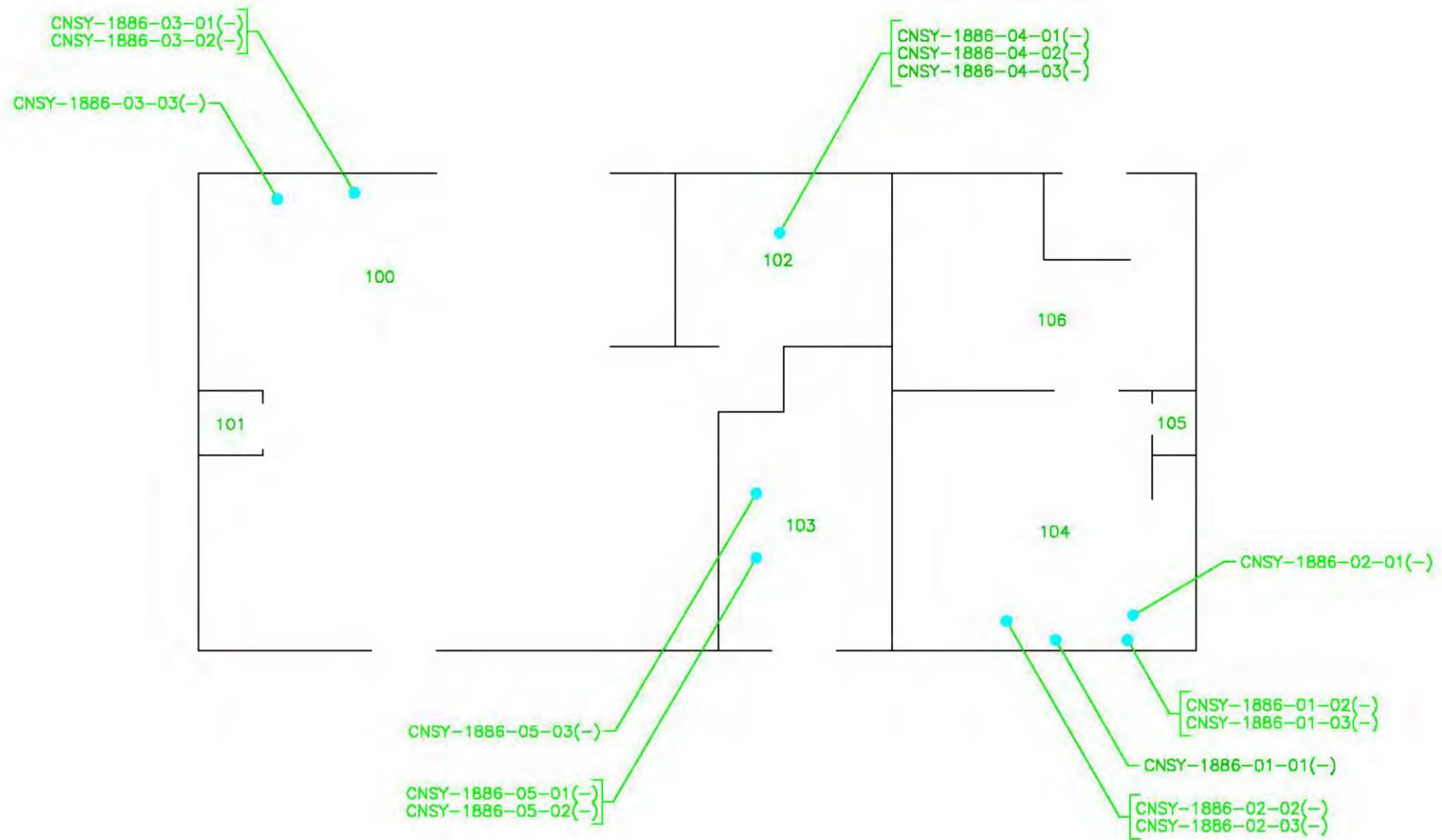
Legend NAD = No Asbestos Detected

\* The floor tile from this sample was analyzed by "Chatfield TEM Method"

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**

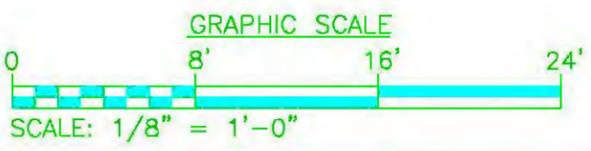
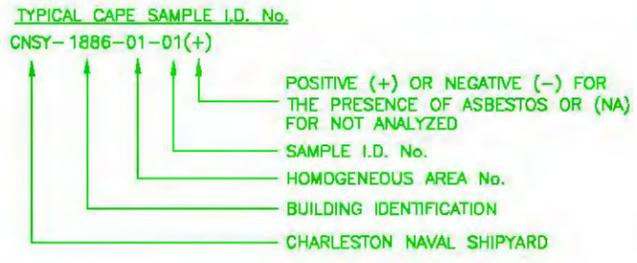


**BUILDING 1886 - FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

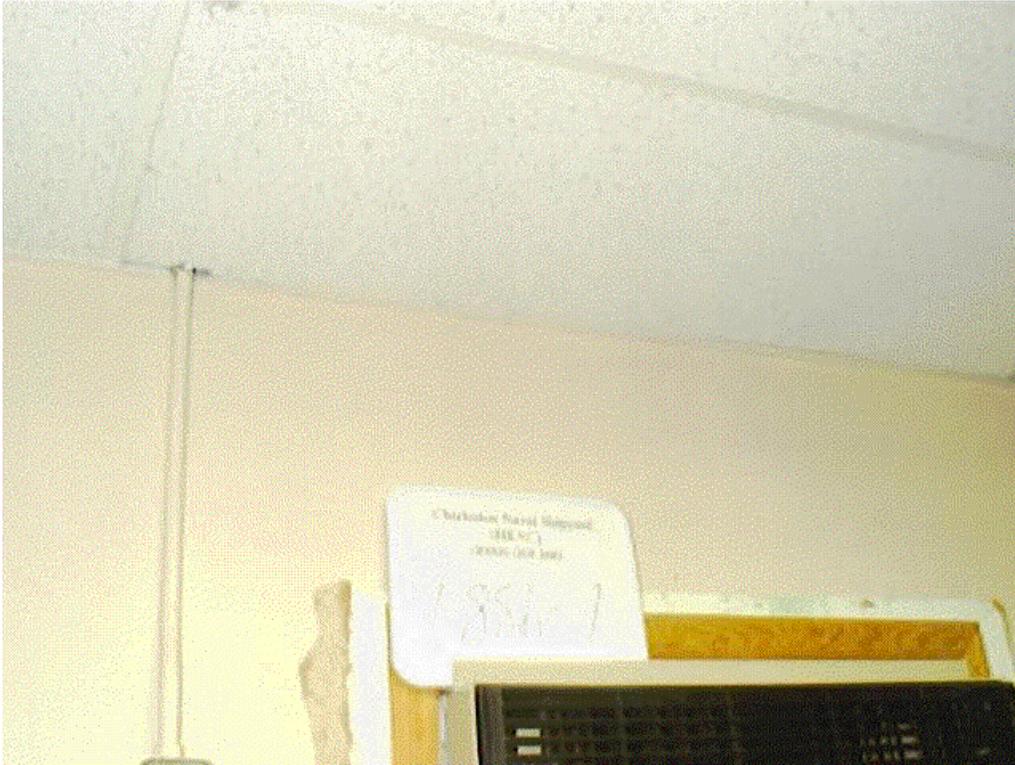
- SYMBOLS**
- LOCATION OF SAMPLES COLLECTED
  - (-) NON-ASBESTOS-CONTAINING MATERIAL



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	GEORGIA
CHARLESTON, S.C.	TSORR	DIRK
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		DIR CHRIS
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		SUPV. PERFORMANCE ENGR
BUILDING 1886 - FLOOR PLAN		SUBMITTED BY (FIRM MEMBER-TITLE)
APPROVED	DATE	DATE
EDD FOR COMMANDER, NAVFAC	OFFICER IN CHARGE	DIR
APPROVED	DATE	PFE
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO. N62487-98-0-1012		
NAVFAC DRAWING NO. N/A		
SHEET 1 OF 1		
1886ASB-1		

## **PART 3**

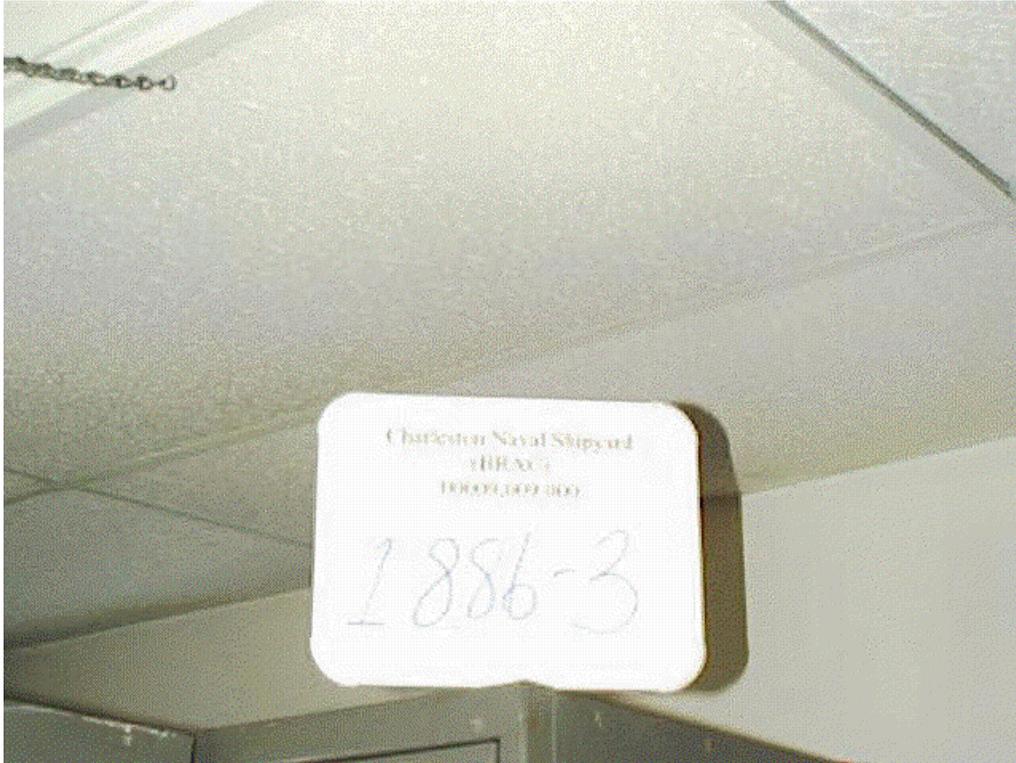
### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	2'x2' ceiling tile, pinhole-pitted	104	NO



HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged 12"x12" floor tile and mastic, gray	104	NO



HA #	Material Description	Material Location	ACM (YES/NO)
3	2'x4' ceiling tile, pinhole grooved	100	NO





HA #	Material Description	Material Location	ACM (YES/NO)
5	Damaged 12"x12" floor tile and mastic, brown	103	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS:	ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>

SAMPLE ID	SAMPLE ID
1 CNSY-1886-01-01	16
2 CNSY-1886-01-02	17
3 CNSY-1886-01-03	18
4 CNSY-1886-02-01	19
5 CNSY-1886-02-02	20
6 CNSY-1886-02-03	21
7 CNSY-1886-03-01	22
8 CNSY-1886-03-02	23
9 CNSY-1886-03-03	24
10 CNSY-1886-04-01	25
11 CNSY-1886-04-02	26
12 CNSY-1886-04-03	27
13 CNSY-1886-05-01	28
14 CNSY-1886-05-02	29
15 CNSY-1886-05-03	30

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

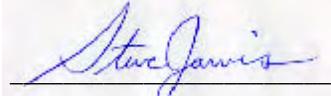
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 3

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7364	CNSY-1886-01-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7365	CNSY-1886-01-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7366	CNSY-1886-01-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 35 GLASS FIBERS	25 PERLITE 10 OTHER
7367	CNSY-1886-02-01		1 (of 1)	GRAY HARD RESILIENT TO GRANULAR (FT) WITH YELLOW GLUE AND PAINT			3 CELLULOSE	25 AGGREGATES 2 MASTIC 70 OTHER
7368	CNSY-1886-02-02		1 (of 1)	GRAY HARD RESILIENT TO GRANULAR (FT) WITH LEVELING COMPOUND			4 CELLULOSE	30 AGGREGATES 66 OTHER
7369	CNSY-1886-02-03		1 (of 1)	GRAY HARD RESILIENT TO GRANULAR (FT) WITH YELLOW GLUE AND LEVELING COMPOUND			4 CELLULOSE 1 WOLLASTONITE	30 AGGREGATES 2 MASTIC 63 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/8/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

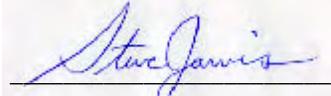
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 3

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7370	CNSY-1886-03-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7371	CNSY-1886-03-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7372	CNSY-1886-03-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7373	CNSY-1886-04-01		1 (of 1)	BLUE HARD RESILIENT TO GRANULAR (FT) WITH BLACK MASTIC			2 CELLULOSE 1 GLASS FIBERS 1 SYNTHETICS	3 BITUMEN 30 AGGREGATES 63 OTHER
7374	CNSY-1886-04-02		1 (of 1)	BLUE HARD RESILIENT TO GRANULAR (FT)			1 CELLULOSE 1 GLASS FIBERS	35 AGGREGATES 63 OTHER
7375	CNSY-1886-04-03		1 (of 1)	BLUE HARD RESILIENT TO GRANULAR (FT) WITH BLACK MASTIC AND GLUE			1 CELLULOSE 1 GLASS FIBERS	2 BITUMEN 30 AGGREGATES 2 MASTIC 64 OTHER

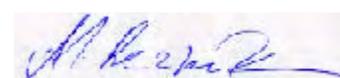
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/8/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

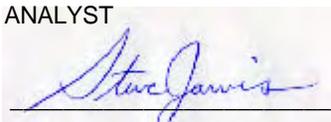
REPORT ISSUED: 9/12/00  
 PAGE: 3 of 3

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7376	CNSY-1886-05-01		1 (of 1)	BROWN HARD RESILIENT TO GRANULAR (FT) WITH GLUE AND PAINT			4 CELLULOSE	30 AGGREGATES 3 MASTIC 63 OTHER
7377	CNSY-1886-05-02		1 (of 1)	BROWN HARD RESILIENT TO GRANULAR (FT) WITH YELLOW GLUE AND PAINT			4 CELLULOSE	30 AGGREGATES 2 MASTIC 64 OTHER
7378	CNSY-1886-05-03		1 (of 1)	BROWN HARD RESILIENT TO GRANULAR (FT) WITH YELLOW GLUE			5 CELLULOSE	30 AGGREGATES 3 MASTIC 62 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/8/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

## **BUILDING 1892**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: 1892**

**DESCRIPTION: Supply Storage (CBU 412)**

Building 1892 is a single-story structure totaling 720 square feet. The building was constructed in 1984.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

*No friable ACM was identified in this building.*

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM.

*No damaged friable ACM was identified in this building.*

Abatement Comments: N/A

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 1892

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

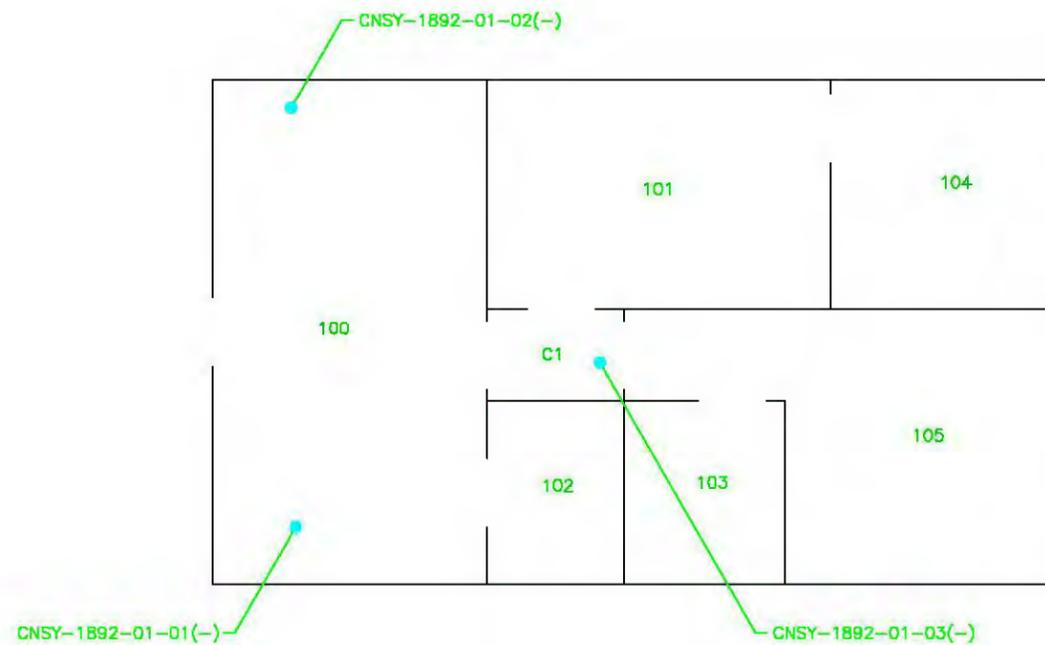
HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	2'x4' ceiling tile, pinhole-fissured	100, 101, 104, C1, 105	CAPE 2000	CNSY-1892-01-01-QC CNSY-1892-01-01 CNSY-1892-01-02 CNSY-1892-01-03	NAD NAD NAD NAD	No

Legend NAD = No Asbestos Detected

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



**BUILDING 1892 - FLOOR PLAN**

SCALE: 1/8" = 1'-0"

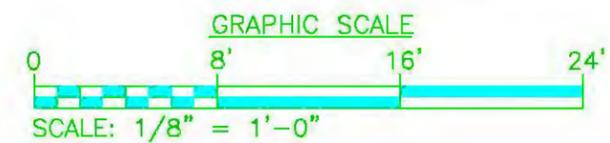
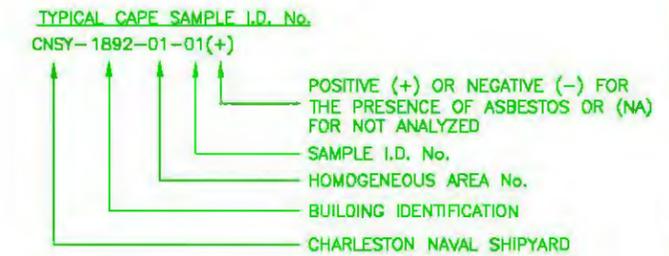


**NOTE**

NO FRIABLE ASBESTOS-CONTAINING MATERIALS WERE IDENTIFIED IN THIS BUILDING.

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DATE	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	PREP BY	DIRK
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	DATE	DIR
BUILDING 1892 - FLOOR PLAN	DATE	DIR
APPROVED	DATE	DIR
SEAL AREA	DATE	DIR
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PROJ. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N62487-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET 1	OF 1	
1892ASB-1		

## **PART 3**

### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	2'x4' ceiling tile, pinhole-fissured	100, 101, 104, C1, 105	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>
3 DAYS <input type="checkbox"/>	5 DAYS <input type="checkbox"/>
NEED BY:	
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/>	STOP POSITIVE <input type="checkbox"/>

SAMPLE ID		SAMPLE ID	
1	CNSY-1509-01-01	16	
2	CNSY-1509-01-02	17	
3	CNSY-1509-01-03	18	
4	CNSY-1509-02-01	19	
5	CNSY-1509-02-02	20	
6	CNSY-1509-02-03	21	
7	CNSY-1777-01-01	22	
8	CNSY-1777-01-02	23	
9	CNSY-1777-01-03	24	
10	CNSY-1884-01-01	25	
11	CNSY-1884-01-02	26	
12	CNSY-1884-01-03	27	
13	CNSY-1892-01-01	28	
14	CNSY-1892-01-02	29	
15	CNSY-1892-01-03	30	

SPECIAL INSTRUCTIONS:

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DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0114-3  
DATE RECEIVED: 5/30/00  
DATE ANALYZED: 6/6/00

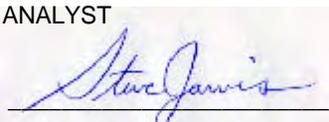
REPORT ISSUED: 9/12/00  
PAGE: 1 of 1

**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7361	<b>CNSY-1892-01-01</b>		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7362	<b>CNSY-1892-01-02</b>		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 25 GLASS FIBERS	30 PERLITE 10 OTHER
7363	<b>CNSY-1892-01-03</b>		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 20 GLASS FIBERS	35 PERLITE 10 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/6/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 QC	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 QC	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 QC	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

# **BUILDING NS67**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: NS67**

**DESCRIPTION: Enlisted Men's Barracks**

Building NS67 is a three-story structure totaling 32,207 square feet. The building was constructed in 1963.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
10	Pipe fitting insulation on steam lines	Exterior (east side of building)	TSI	5 EA	Damaged
12	Contaminated soil	Crawlspace	Misc	10,000 SF	Damaged

Legend: TSI = Thermal System Insulation Misc = Misc.

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any “assumed” or “presumed” asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
10	Pipe fitting insulation on steam lines	Exterior (east side of building)	5 EA	Repair/Encapsulate
12	Contaminated soil	Crawlspace	10,000 SF	Isolate/remove

Abatement Comments: None

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties “as is” if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: NS67

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	2'x4' ceiling tile, rough-pinhole	100, 102-120, 100A, 100B, 201-220, 225	CAPE 2000	CNSY-NS67-01-01-QC CNSY-NS67-01-01 CNSY-NS67-01-02 CNSY-NS67-01-03	NAD NAD NAD NAD	No
2	2'x4' ceiling tile, grooved-pinhole	Corr. 1, 101, 120, 324, 325	CAPE 2000	CNSY-NS67-02-01 CNSY-NS67-02-02 CNSY-NS67-02-03	NAD NAD NAD	No
3	2'x4' ceiling tile, pitted-pinhole	Corr. 1, 120, Corr. 2, 225, 230, Corr. 3	CAPE 2000	CNSY-NS67-03-01-QC CNSY-NS67-03-01 CNSY-NS67-03-02 CNSY-NS67-03-03	NAD NAD NAD NAD	No
4	Damaged plaster ceiling	All rooms except restrooms and corridors	CAPE 2000	CNSY-NS67-04-01 CNSY-NS67-04-02 CNSY-NS67-04-03 CNSY-NS67-04-04 CNSY-NS67-04-05 CNSY-NS67-04-06 CNSY-NS67-04-07	NAD NAD NAD NAD NAD NAD NAD	No
5	Spray-applied fireproofing	Throughout	CAPE 2000	CNSY-NS67-05-01 CNSY-NS67-05-02 CNSY-NS67-05-03 CNSY-NS67-05-04 CNSY-NS67-05-05 CNSY-NS67-05-06 CNSY-NS67-05-07	NAD NAD NAD NAD NAD NAD NAD	No
6	Pipe fitting insulation on domestic water lines	101	CAPE 2000	CNSY-NS67-06-01 CNSY-NS67-06-02 CNSY-NS67-06-03	NAD NAD NAD	No
7	Pipe fitting insulation on hot water lines	226, Corr. 2	CAPE 2000	CNSY-NS67-07-01 CNSY-NS67-07-02 CNSY-NS67-07-03	NAD NAD NAD	No

**FACILITY NO.: NS67**

**SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS**

**Continued:**

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
8	Pipe insulation on hot water lines	Corr. 2	CAPE 2000	CNSY-NS67-08-01-QC CNSY-NS67-08-01 CNSY-NS67-08-02 CNSY-NS67-08-03	NAD NAD NAD	No
9	Plaster debris	Throughout 2 <sup>nd</sup> and 3 <sup>rd</sup> floors	CAPE 2000	CNSY-NS67-09-01 CNSY-NS67-09-02 CNSY-NS67-09-03	NAD NAD NAD	No
10	Damaged pipe fitting insulation on steam lines	Exterior (east side of building)	CAPE 2000	CNSY-NS67-10-01 CNSY-NS67-10-02 CNSY-NS67-10-03	30% CHR, 2% AMO NA NA	Yes
11	Canvas wrap on hot water lines	Mech. room	CAPE 2000	CNSY-NS67-11-01 CNSY-NS67-11-02 CNSY-NS67-11-03	NAD NAD NAD	No
12	Contaminated soil	Crawlspace	CAPE 2000	CNSY-NS67-12-01 CNSY-NS67-12-02 CNSY-NS67-12-03 CNSY-NS67-12-04 CNSY-NS67-12-05 CNSY-NS67-12-06 CNSY-NS67-12-07	4% CHR NAD NAD NAD NAD NAD NAD	Yes

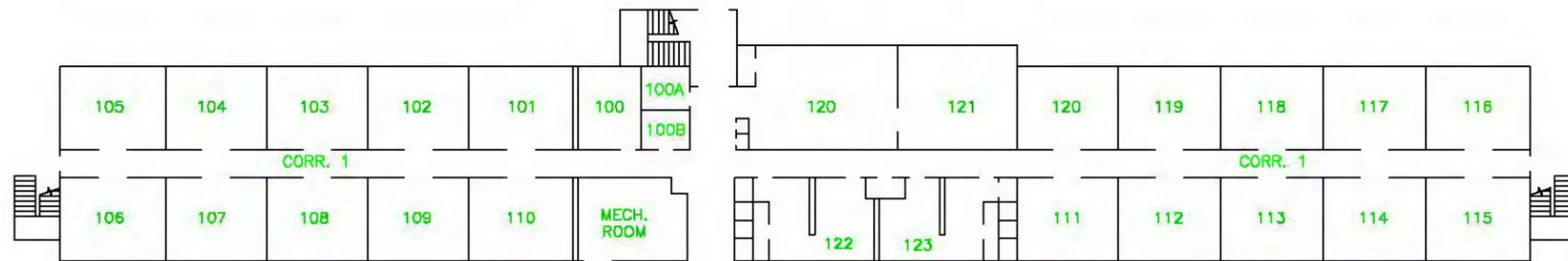
Legend: NAD = No Asbestos Detected CHR = Chrysotile NA = Not Analyzed  
AMO = Amosite (T) = Floor tile (M) = Mastic

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**





**BUILDING NS67 – FIRST FLOOR PLAN**

SCALE: 1/32" = 1'-0"

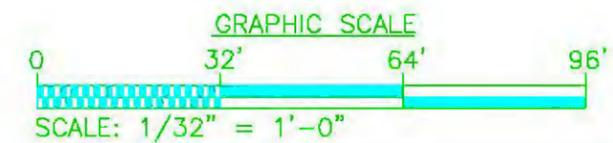


**NOTE**

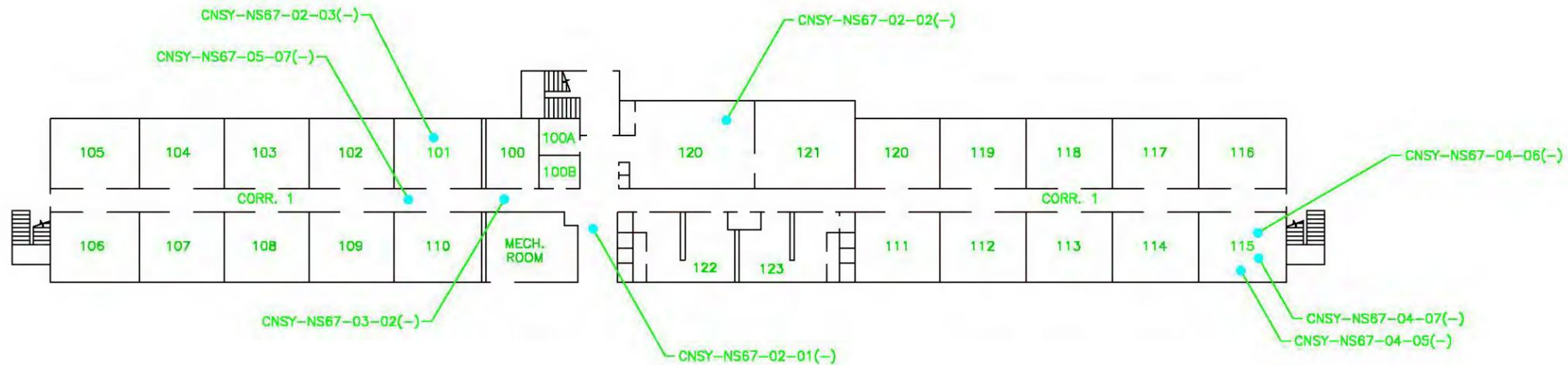
NO FRIABLE ASBESTOS-CONTAINING FLOOR COVERING OR WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**NOTE**

NO FRIABLE ASBESTOS-CONTAINING ROOFING MATERIALS WERE IDENTIFIED IN THIS BUILDING.



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		ATLANTA		ATLANTA	
CHARLESTON, S.C.		REV. DESCRIPTION		GEORGIA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		PREP BY		DIR	
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DATE APPROVD		DIR	
BUILDING NS67 – FIRST FLOOR PLAN		DATE		DIR	
(FLOORS AND WALLS)		OFFICER IN CHARGE		DIR	
APPROVED		DATE		DIR	
ED FOR COMMANDER, NAVFAC		APPROVED		DIR	
SEAL AREA		DATE		DIR	
CODE ID No.	SIZE	DATE			
FED DRAWING NO.		DATE			
STA. PROJ. NO.		DATE			
CAPE PROJ. No. 00008.008.000		DATE			
SPEC. NO. N/A		DATE			
CONSTRN. CNTR. NO. N62487-98-0-1012		DATE			
NAVFAC DRAWING NO. N/A		DATE			
SHEET 2	OF 10	DATE			
NS67ASB-2					



**BUILDING NS67 - FIRST FLOOR PLAN**

SCALE: 1/32" = 1'-0"

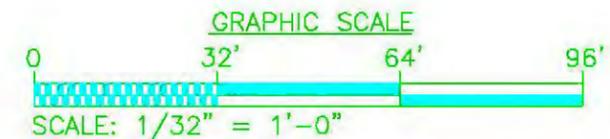
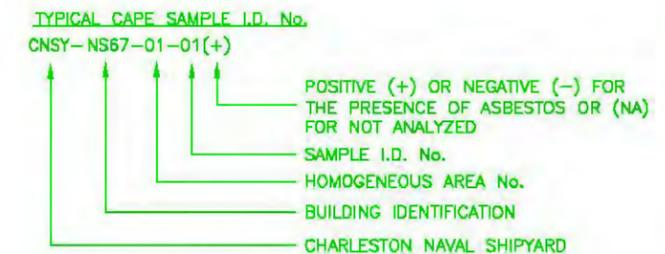


**NOTE**

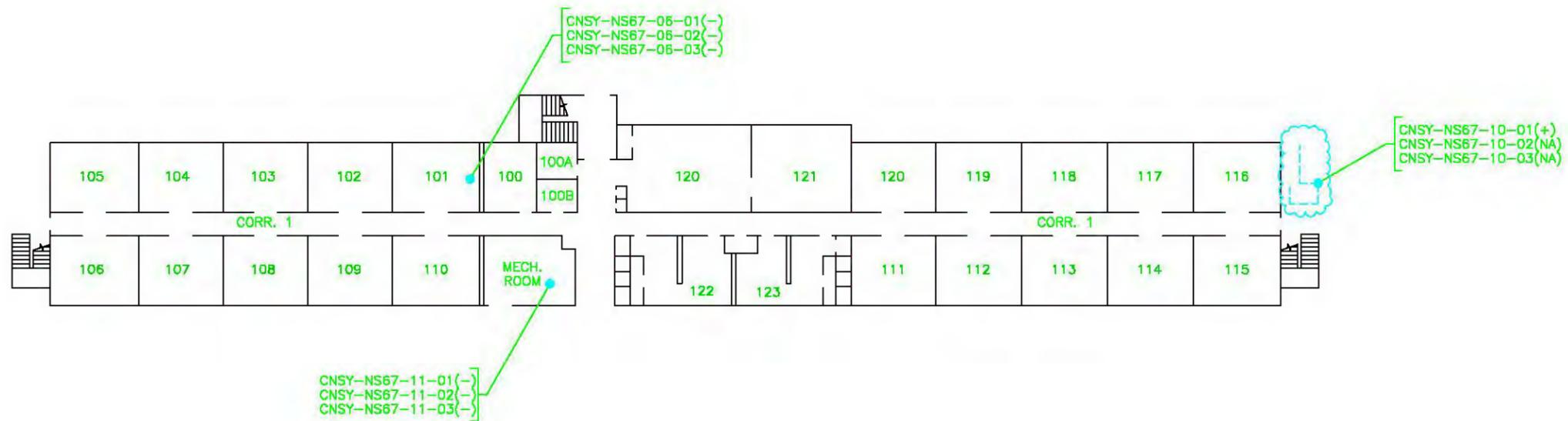
NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	REVISION	DATE	APPROVED
SOUTHERN DIVISION	CHARLESTON, S.C.	REV. DESCRIPTION	PREP BY	DATE APPROVD
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		REV. DESCRIPTION	PREP BY	DATE APPROVD
BUILDING NS67 - FIRST FLOOR PLAN (CEILING AND MISCELLANEOUS)		REV. DESCRIPTION	PREP BY	DATE APPROVD
SEAL AREA	DATE	OFFICER IN CHARGE	DATE	APPROVED
CODE ID No.	SIZE	CAPE ENVIRONMENTAL MANAGEMENT INC.	ATLANTA	GEORGIA
FED DRAWING NO.		TS201	DIR	DIRK
STA. PROJ. NO.		SUPV. PERFORMANCE ENGR	DIR	CRIDS
CAPE PROJ. No. 00008.008.000		SUBMITTED BY (FIRM MEMBER-TITLE)	EDC	BR 110
SPEC. NO. N/A				
CONSTRN. CNTR. NO. N62487-98-0-1012				
NAVFAC DRAWING NO. N/A				
SHEET 3 OF 10				
NS67ASB-3				



**BUILDING NS67 – FIRST FLOOR PLAN**

SCALE: 1/32" = 1'-0"



**LEGEND**

FRIABLE ASBESTOS-CONTAINING MATERIALS (ACM)  
IDENTIFIED – THERMAL SYSTEMS INSULATION (T.S.I.)

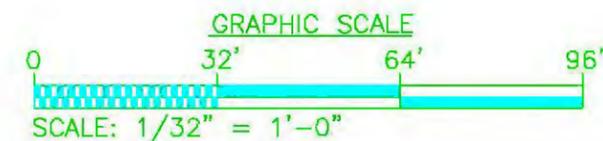
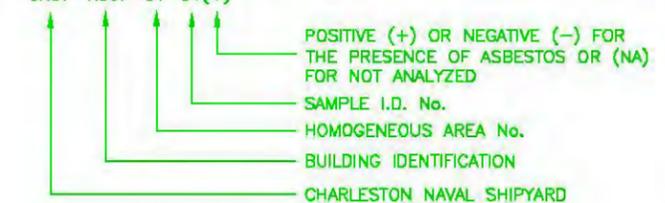
--- DAMAGED ASBESTOS-CONTAINING PIPE FITTING INSULATION  
ON FIBERGLASS INSULATED STEAM LINES

☁️ LOCATION OF DAMAGED FRIABLE ASBESTOS-CONTAINING  
MATERIAL

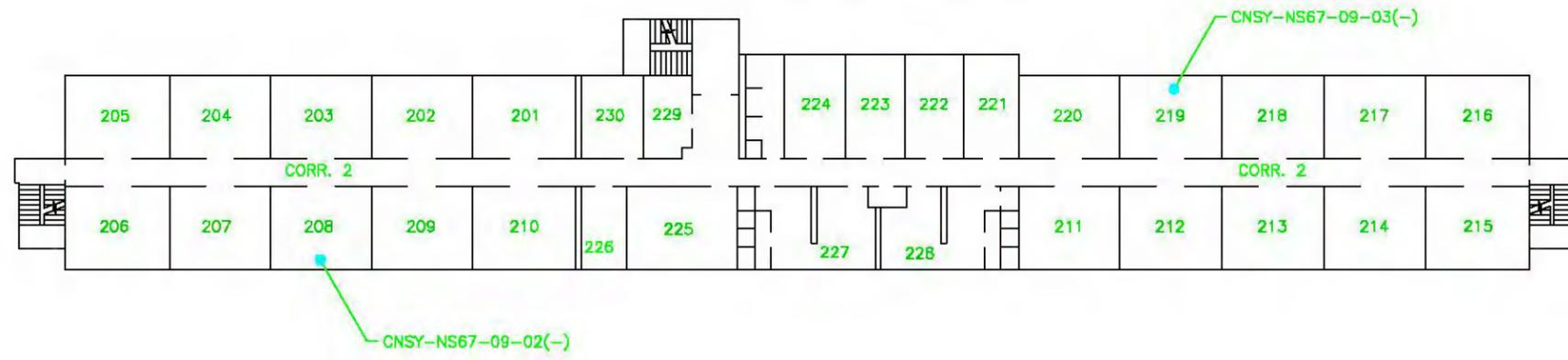
**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (+) ASBESTOS-CONTAINING MATERIAL
- (-) NON-ASBESTOS-CONTAINING MATERIAL
- (NA) INDICATES SAMPLE WAS NOT ANALYZED SINCE AT  
LEAST ONE SAMPLE RESULT OF THE SAME  
HOMOGENEOUS AREA (HA) IS POSITIVE. (SAMPLES  
FOR EACH HA WERE ANALYZED UNTIL POSITIVE).

TYPICAL CAPE SAMPLE I.D. No.  
CNSY-NS67-01-01(+)



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DIR	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		DIR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR CHRIS
BUILDING NS67 – FIRST FLOOR PLAN		SUPV. PERFORMANCE ENGR
(THERMAL SYSTEM INSULATION)		SUBMITTED BY (FIRM MEMBER-TITLE)
DATE	DATE	DATE
APPROVED	OFFICER IN CHARGE	DIR
SEAL AREA	DATE	FPE
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PBL. No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N62487-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET 4	OF 10	
NS67ASB-4		



**BUILDING NS67 - SECOND FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"

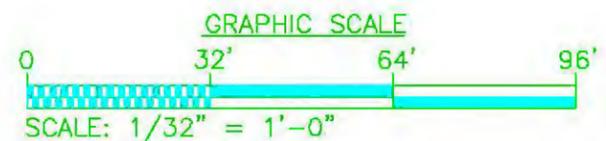


**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING FLOOR COVERING OR WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

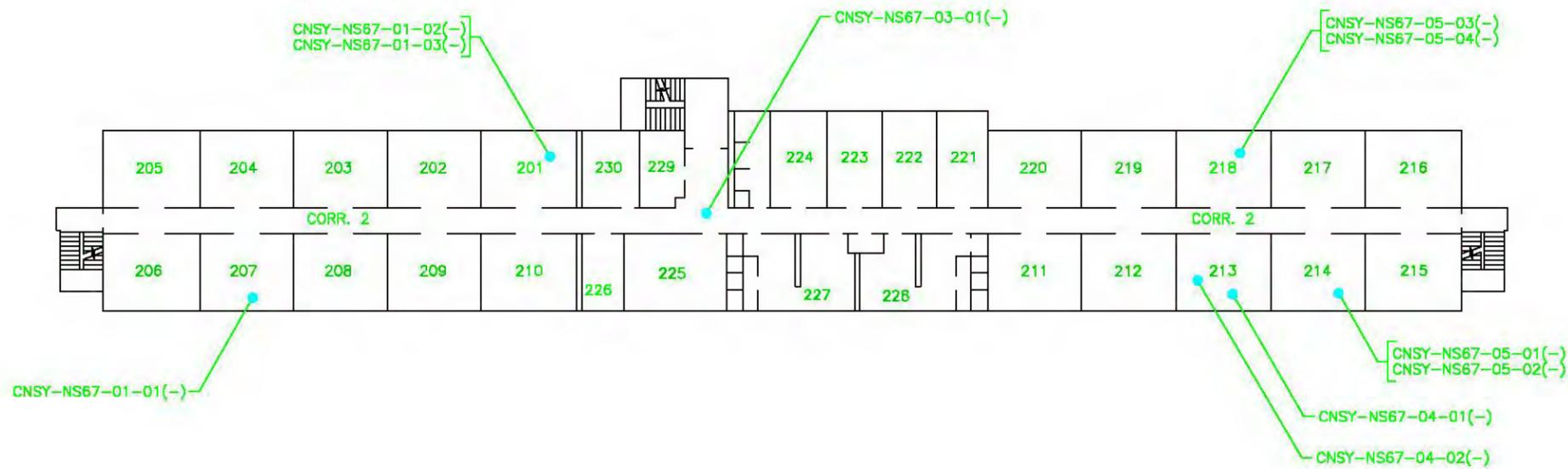
- SYMBOLS**
- LOCATION OF SAMPLES COLLECTED
  - (-) NON-ASBESTOS-CONTAINING MATERIAL

**TYPICAL CAPE SAMPLE I.D. No.**  
 CNSY-NS67-01-01(+)

- CHARLESTON NAVAL SHIPYARD
- BUILDING IDENTIFICATION
- HOMOGENEOUS AREA No.
- SAMPLE I.D. No.
- FOR NOT ANALYZED
- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA)



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	ATLANTA	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.	GEORGIA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR	DIR
BUILDING NS67 - SECOND FLOOR PLAN (FLOORS AND WALLS)		DIR	DIR
APPROVED	DATE	OFFICER IN CHARGE	P/E
SEAL AREA			
CODE ID No.	SIZE		
FED DRAWING NO.			
STA. PROJ. NO.			
CAPE PROJ. No. 00008.008.000			
SPEC. NO. N/A			
CONSTRN. CNTR. NO. N62467-98-0-1012			
NAVFAC DRAWING NO. N/A			
SHEET 8 OF 10			
NS67ASB-5			

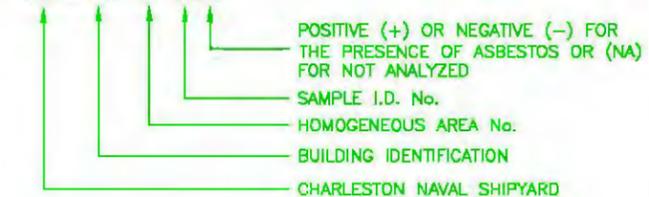


**BUILDING NS67 - SECOND FLOOR PLAN**

SCALE: 1/32" = 1'-0"



TYPICAL CAPE SAMPLE I.D. No.  
CNSY-NS67-01-01(+)

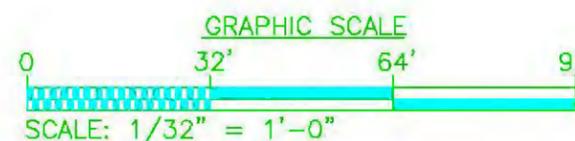


**NOTE**

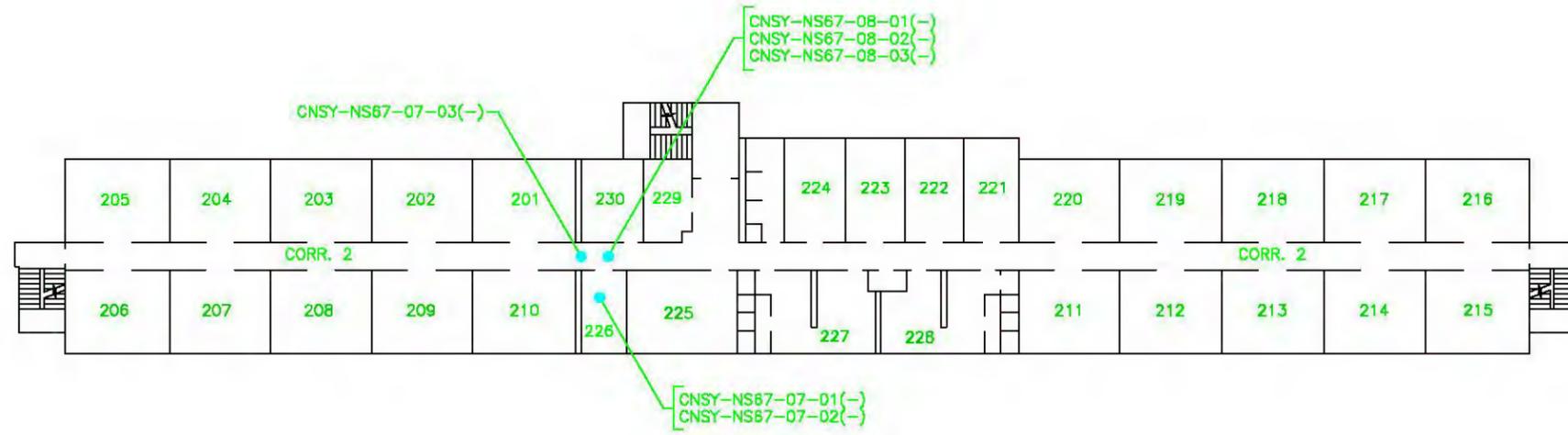
NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DIR	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		DIR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR CHRIS
BUILDING NS67 - SECOND FLOOR PLAN		SUPV. PERFORMANCE ENGR
(CEILING AND MISCELLANEOUS)		SUBMITTED BY (FIRM MEMBER-TITLE)
APPROVED	DATE	DATE
EDD FOR COMMANDER, NAVFAC	OFFICER IN CHARGE	DIR
APPROVED	DATE	DIR
SEAL AREA		
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PRL No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N62487-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET #	OF 18	
NS67ASB-6		



**BUILDING NS67 - SECOND FLOOR PLAN**

SCALE: 1/32" = 1'-0"



TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-NS67-01-01(+)

↑ ↑ ↑ ↑

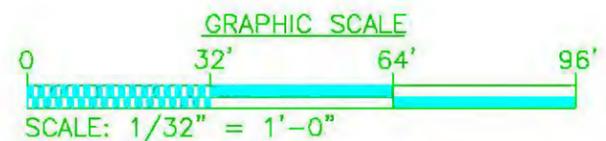
POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED

SAMPLE I.D. No.

HOMOGENEOUS AREA No.

BUILDING IDENTIFICATION

CHARLESTON NAVAL SHIPYARD



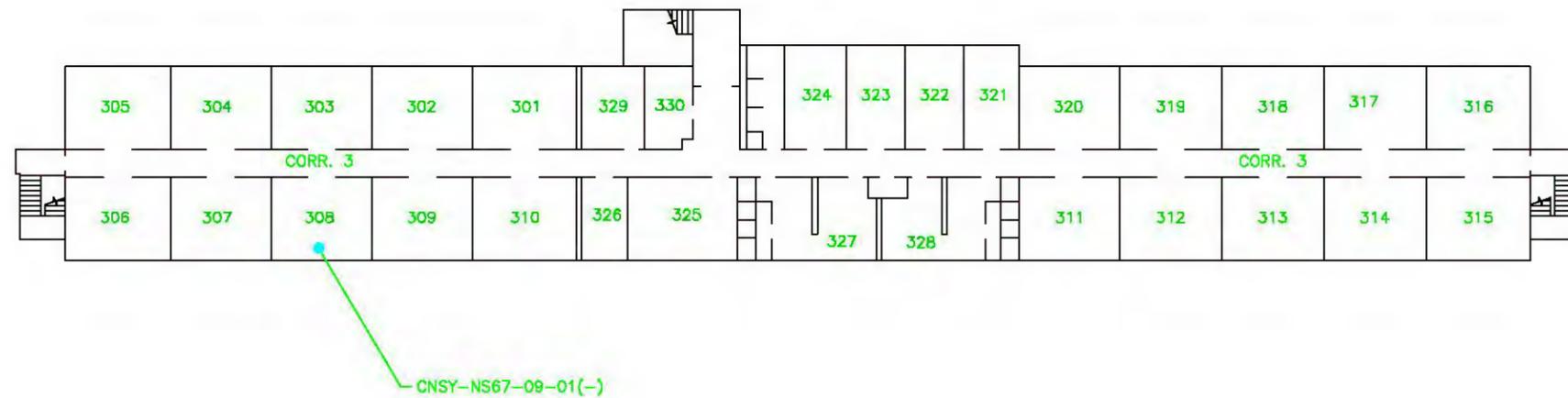
**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING THERMAL SYSTEM INSULATION MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

● LOCATION OF SAMPLES COLLECTED

(-) NON-ASBESTOS-CONTAINING MATERIAL

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	ATLANTA	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	CHARLESTON, S.C.	GEORGIA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR	DIR
BUILDING NS67 - SECOND FLOOR PLAN (THERMAL SYSTEM INSULATION)		DIR	DIR
APPROVED	DATE	DATE	DATE
EDD FOR COMMANDER, NAVFAC	APPROVED	OFFICER IN CHARGE	PFE
SEAL AREA			
CODE ID No.	SIZE		
FED DRAWING NO.			
STA. PROJ. NO.			
CAPE PRL No. 00008.008.000			
SPEC. NO. N/A			
CONSTRN. CNTR. NO. N62487-98-0-1012			
NAVFAC DRAWING NO. N/A			
SHEET 7 OF 18			
NS67ASB-7			



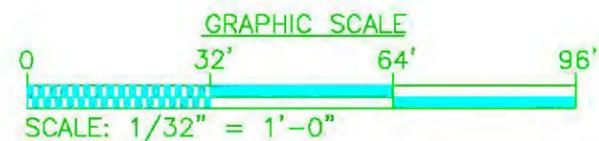
**BUILDING NS67 - THIRD FLOOR PLAN**

SCALE: 1/32" = 1'-0"



TYPICAL CAPE SAMPLE I.D. No.  
 CNSY-NS67-01-01(+)

- ↑ POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- ↑ SAMPLE I.D. No.
- ↑ HOMOGENEOUS AREA No.
- ↑ BUILDING IDENTIFICATION
- ↑ CHARLESTON NAVAL SHIPYARD

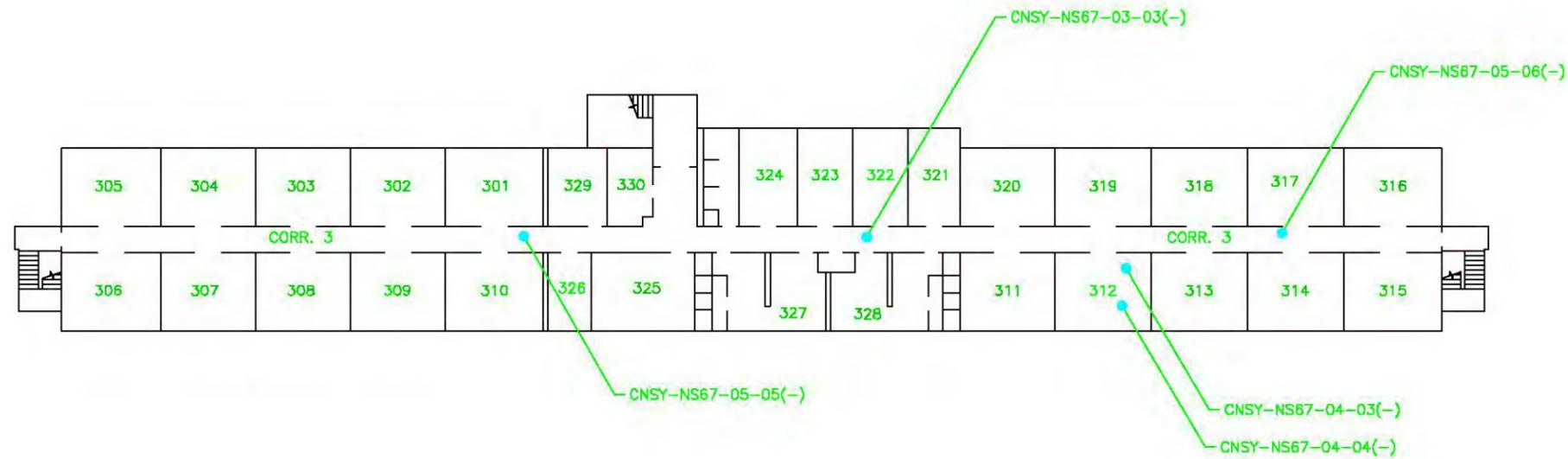


**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING FLOOR COVERING OR WALL MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CAPE ENVIRONMENTAL MANAGEMENT INC.
SOUTHERN DIVISION	ATLANTA	ATLANTA
CHARLESTON, S.C.	DIR	GEORGIA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY	DIR	DIR
AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC	SUPV. PERFORMANCE ENGR	DIR
BUILDING NS67 - THIRD FLOOR PLAN	SUBMITTED BY (FIRM MEMBER-TITLE)	DATE
(FLOORS AND WALLS)	EDC	BR 110
APPROVED	DATE	OFFICER IN CHARGE
EDC FOR COMMANDER, NAVFAC	APPROVED	PFE
DATE	DATE	DIR
SEAL AREA		
CODE ID No.	SIZE	B
FED DRAWING NO.		
STA. PROJ. NO.		
CAPE PRL No. 00008.008.000		
SPEC. NO. N/A		
CONSTRN. CNTR. NO.		
N62487-98-0-1012		
NAVFAC DRAWING NO.		
N/A		
SHEET 8	OF 10	
NS67ASB-8		



**BUILDING NS67 - THIRD FLOOR PLAN**  
 SCALE: 1/32" = 1'-0"



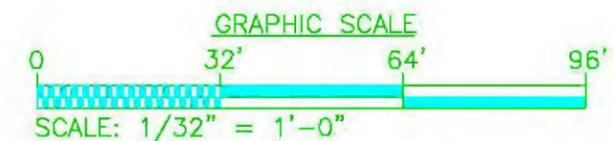
**NOTE**  
 NO FRIABLE ASBESTOS-CONTAINING CEILING OR OTHER MISCELLANEOUS MATERIALS WERE IDENTIFIED ON THIS FLOOR.

**SYMBOLS**

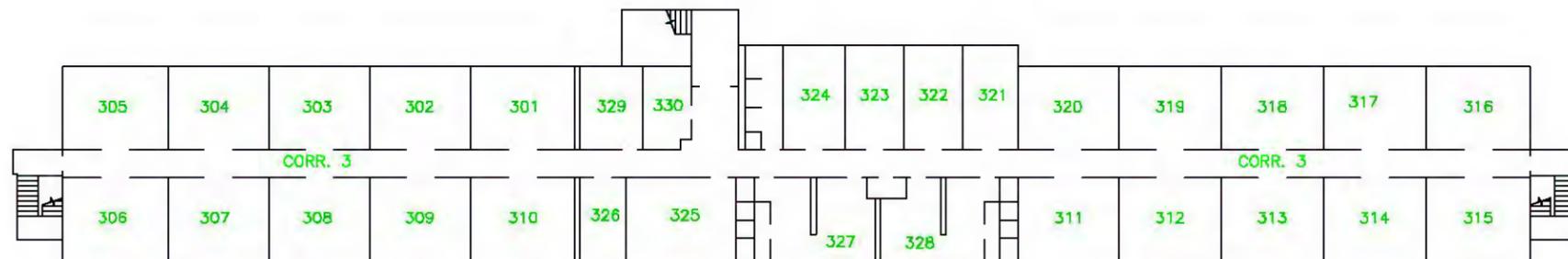
- LOCATION OF SAMPLES COLLECTED
- (-) NON-ASBESTOS-CONTAINING MATERIAL

**TYPICAL CAPE SAMPLE I.D. No.**  
 CNSY-NS67-01-01(+)

- POSITIVE (+) OR NEGATIVE (-) FOR THE PRESENCE OF ASBESTOS OR (NA) FOR NOT ANALYZED
- SAMPLE I.D. No.
- HOMOGENEOUS AREA No.
- BUILDING IDENTIFICATION
- CHARLESTON NAVAL SHIPYARD



DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	ATLANTA	DATE APPROVD
SOUTHERN DIVISION	CHARLESTON, S.C.	CAPE ENVIRONMENTAL MANAGEMENT INC.	ATLANTA
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		DIR	DATE
BUILDING NS67 - THIRD FLOOR PLAN (CEILING AND MISCELLANEOUS)		SUPV. PERFORMANCE ENGR	DATE
APPROVED	DATE	EDD	BR 110
SEAL AREA	DATE	OFFICER IN CHARGE	PFE
CODE ID No.	SIZE	DIR	
FED DRAWING NO.			
STA. PROJ. NO.			
CAPE PRL. No.	00008.008.000		
SPEC. NO.	N/A		
CONSTRN. CNTR. NO.	N62467-98-0-1012		
NAVFAC DRAWING NO.	N/A		
SHEET 9	OF 10		
NS67ASB-9			



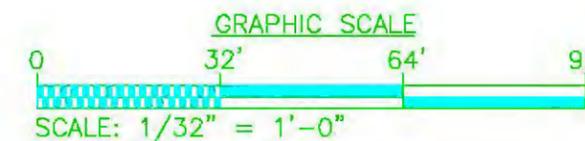
**BUILDING NS67 - THIRD FLOOR PLAN**

SCALE: 1/32" = 1'-0"



**NOTE**

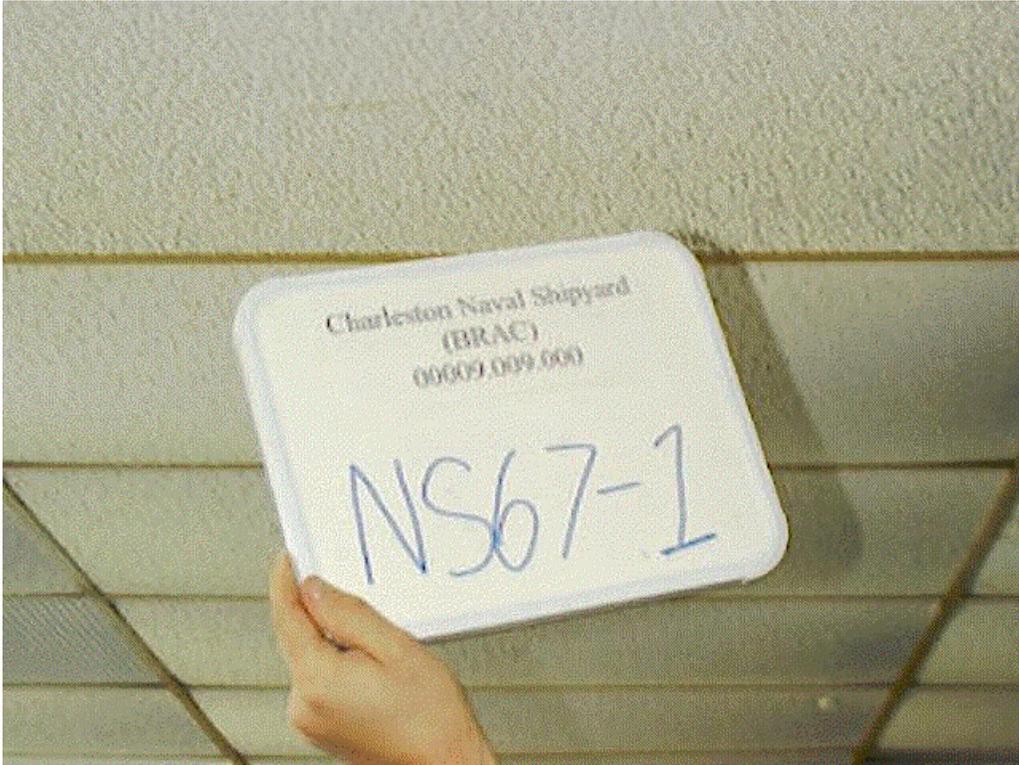
NO FRIABLE ASBESTOS-CONTAINING THERMAL SYSTEM INSULATION MATERIALS WERE IDENTIFIED ON THIS FLOOR.



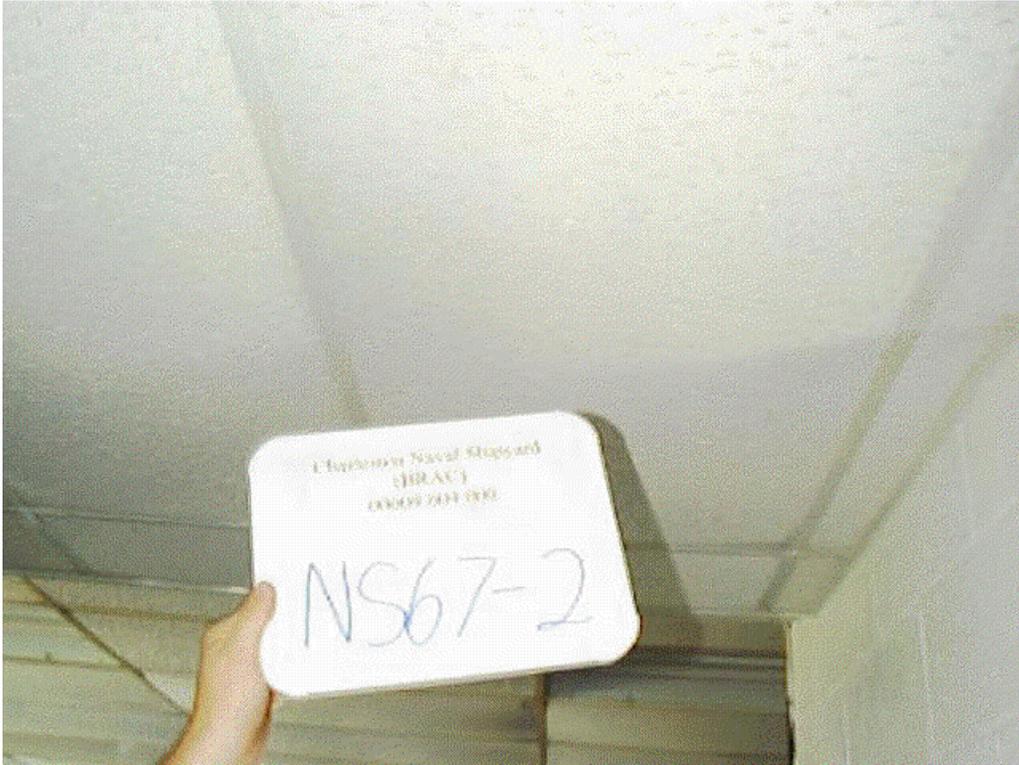
DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		CAPE ENVIRONMENTAL MANAGEMENT INC.	
SOUTHERN DIVISION		CHARLESTON, S.C.		ATLANTA	
A-E SERVICES FOR FRIABLE ASBESTOS SURVEY		AT CHARLESTON NAVAL SHIPYARD, CHARLESTON, SC		GEORGIA	
BUILDING NS67 - THIRD FLOOR PLAN		(THERMAL SYSTEM INSULATION)		DIR	
APPROVED		DATE		OFFICER IN CHARGE	
SEAL AREA		DATE		PFE	
CODE ID No.		SIZE		DIR	
FED DRAWING NO.				DIR	
STA. PROJ. NO.				DIR	
CAPE PROJ. No. 00008.008.000				DIR	
SPEC. NO. N/A				DIR	
CONSTRN. CNTR. NO. N62487-98-0-1012				DIR	
NAVFAC DRAWING NO. N/A				DIR	
SHEET 10 OF 10				DIR	
NS67ASB-10				DIR	

## **PART 3**

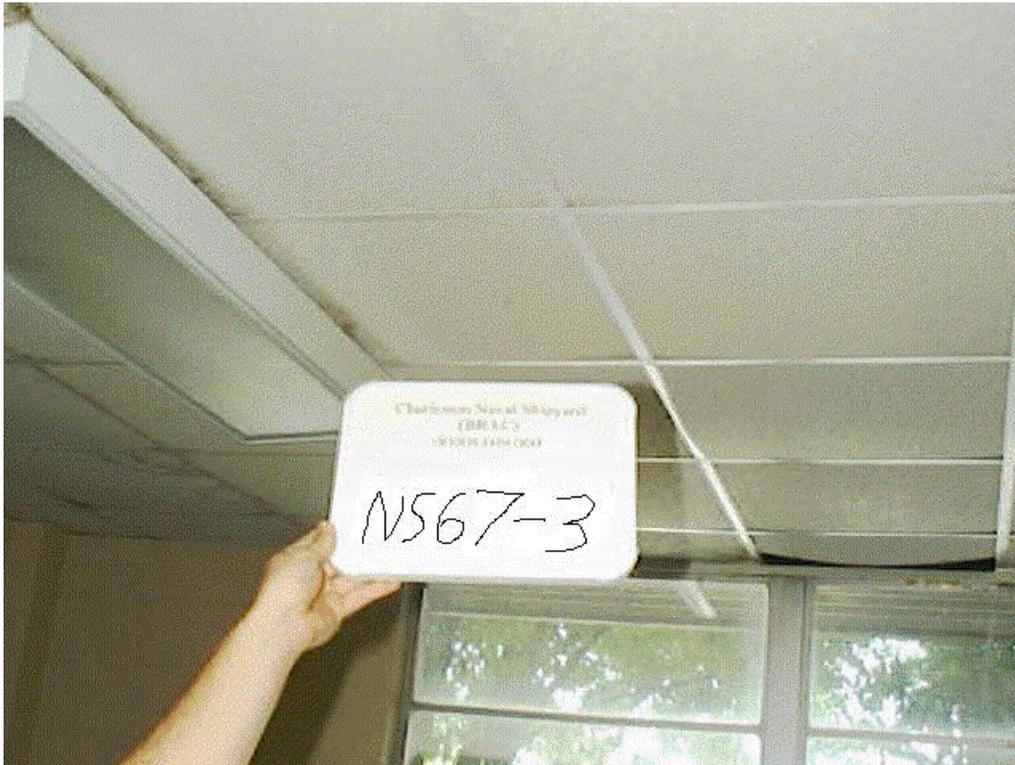
### **Photographs of Friable and Damaged Friable Homogeneous Areas**



HA #	Material Description	Material Location	ACM (YES/NO)
1	2'x4' ceiling tile, rough-pinhole	100, 102-120, 100A, 100B, 201-220, 225	NO



HA #	Material Description	Material Location	ACM (YES/NO)
2	2'x4' ceiling tile, grooved-pinhole	Corr. 1, 101, 120, 324, 325	NO



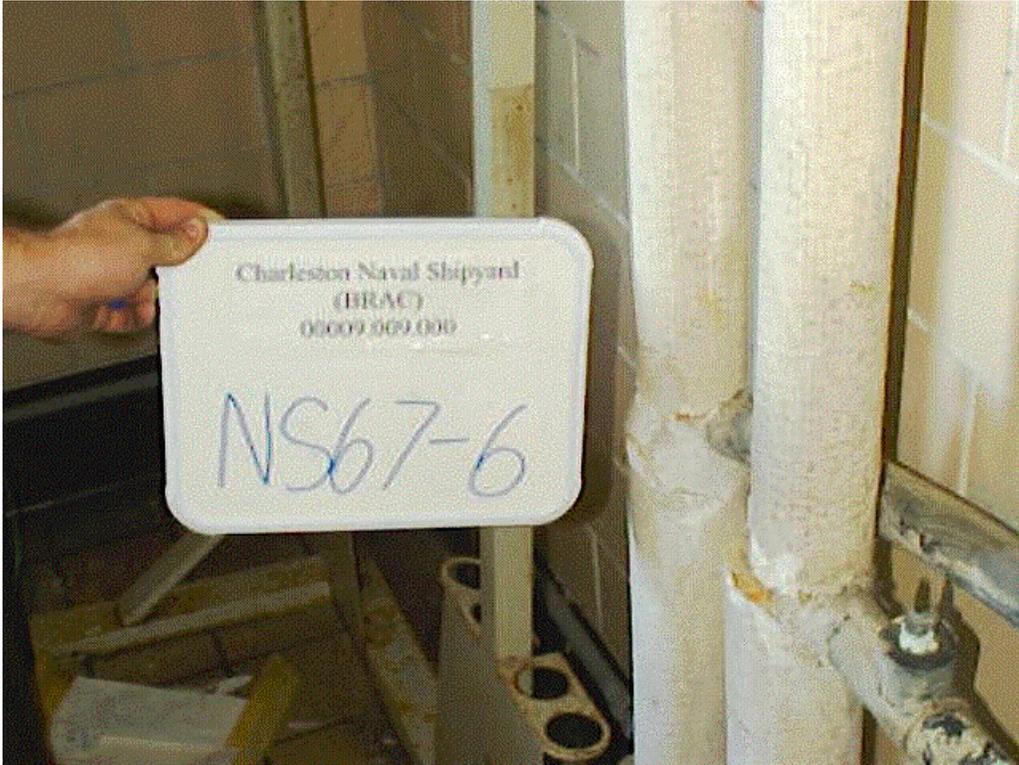
HA #	Material Description	Material Location	ACM (YES/NO)
3	2'x4' ceiling tile, pitted-pinhole	Corr. 1, 120, Corr. 2, 225, 230, Corr. 3	NO



HA #	Material Description	Material Location	ACM (YES/NO)
4	Damaged plaster ceiling	All rooms except restrooms and corridors	NO



HA #	Material Description	Material Location	ACM (YES/NO)
5	Spray-applied fireproofing	Throughout	NO



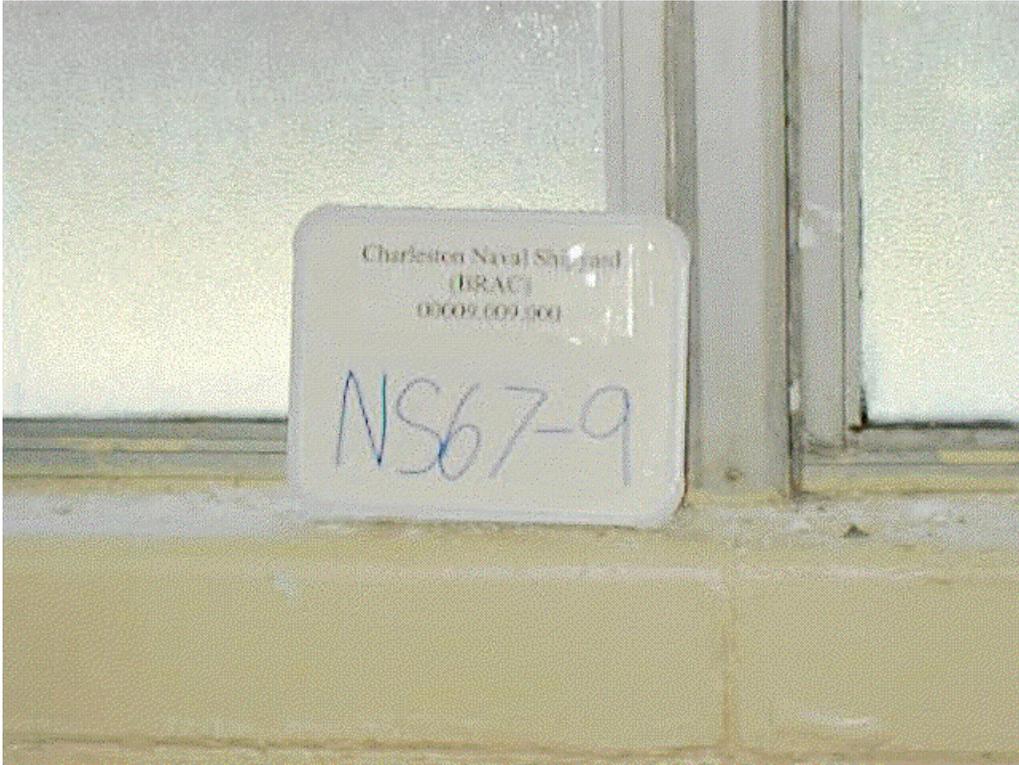
HA #	Material Description	Material Location	ACM (YES/NO)
6	Pipe fitting insulation on domestic water lines	101	NO



HA #	Material Description	Material Location	ACM (YES/NO)
7	Pipe fitting insulation on hot water lines	226, Corr. 2	NO



HA #	Material Description	Material Location	ACM (YES/NO)
8	Pipe insulation on hot water lines	Corr. 2	NO



HA #	Material Description	Material Location	ACM (YES/NO)
9	Plaster debris	Throughout 2 <sup>nd</sup> and 3 <sup>rd</sup> floors	NO



HA #	Material Description	Material Location	ACM (YES/NO)
10	Damaged pipe fitting insulation on steam lines	Exterior (east side of building)	YES



HA #	Material Description	Material Location	ACM (YES/NO)
11	Canvas wrap on hot water lines	Mech. room	NO



HA #	Material Description	Material Location	ACM (YES/NO)
12	Contaminated soil	Crawlspace	YES

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>
3 DAYS <input type="checkbox"/>	5 DAYS <input type="checkbox"/>
NEED BY:	REQUESTED:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/>	STOP POSITIVE <input type="checkbox"/>

SAMPLE ID		SAMPLE ID	
1	CNSY-NS67-01-01	16	CNSY-NS67-04-07
2	CNSY-NS67-01-02	17	CNSY-NS67-05-01
3	CNSY-NS67-01-03	18	CNSY-NS67-05-02
4	CNSY-NS67-02-01	19	CNSY-NS67-05-03
5	CNSY-NS67-02-02	20	CNSY-NS67-05-04
6	CNSY-NS67-02-03	21	CNSY-NS67-05-05
7	CNSY-NS67-03-01	22	CNSY-NS67-05-06
8	CNSY-NS67-03-02	23	CNSY-NS67-05-07
9	CNSY-NS67-03-03	24	CNSY-NS67-06-01
10	CNSY-NS67-04-01	25	CNSY-NS67-06-02
11	CNSY-NS67-04-02	26	CNSY-NS67-06-03
12	CNSY-NS67-04-03	27	CNSY-NS67-07-01
13	CNSY-NS67-04-04	28	CNSY-NS67-07-02
14	CNSY-NS67-04-05	29	CNSY-NS67-07-03
15	CNSY-NS67-04-06	30	

SPECIAL INSTRUCTIONS:

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RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**CAPE ENVIRONMENTAL MANAGEMENT INC**

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**CHAIN OF CUSTODY**

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PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
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TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>
	3 DAYS <input type="checkbox"/>
	5 DAYS <input type="checkbox"/>
	NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/>	STOP POSITIVE <input type="checkbox"/>

SAMPLE ID		SAMPLE ID	
1	CNSY-NS67-08-01	16	
2	CNSY-NS67-08-02	17	
3	CNSY-NS67-08-03	18	
4	CNSY-NS67-09-01	19	
5	CNSY-NS67-09-02	20	
6	CNSY-NS67-09-03	21	
7	CNSY-NS67-10-01	22	
8	CNSY-NS67-10-02	23	
9	CNSY-NS67-10-03	24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	

SPECIAL INSTRUCTIONS:

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RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0103  
DATE RECEIVED: 5/22/00  
DATE ANALYZED: 5/22/00

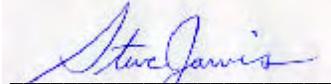
REPORT ISSUED: 9/12/00  
PAGE: 1 of 8

**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6696	CNSY-NS67-11-01		1 (of 1)	WHITE SEMI-HARD RESILIENT CANVAS WITH CLEAR GLUE, ALUMINUM FOIL, MUD-PAINT, AND PAPER			15 CELLULOSE 40 GLASS FIBERS	5 MASTIC 10 METAL 30 OTHER
6697	CNSY-NS67-11-02		1 (of 1)	WHITE SEMI-HARD RESILIENT CANVAS WITH CLEAR GLUE, ALUMINUM FOIL, MUD-PAINT, AND PAPER			20 CELLULOSE 40 GLASS FIBERS	5 MASTIC 10 METAL 25 OTHER
6698	CNSY-NS67-11-03		1 (of 1)	WHITE SEMI-HARD RESILIENT CANVAS WITH CLEAR GLUE, ALUMINUM FOIL, MUD-PAINT, AND PAPER			20 CELLULOSE 45 GLASS FIBERS	3 MASTIC 5 METAL 27 OTHER
6699	CNSY-NS67-12-01		1 (of 1)	BROWN SOFT POWDERY SOIL WITH AGGREGATES AND ACM DEBRIS	ACM MATERIAL CONTAINS 70% CHRYSOTILE. ACM MATERIAL IS 5% OF THE SAMPLE VOLUME.	<b>4 CHRYSOTILE</b>	5 CELLULOSE 7 GLASS FIBERS	4 AGGREGATES 80 OTHER

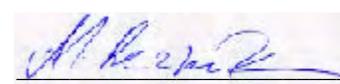
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/22/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0103  
DATE RECEIVED: 5/22/00  
DATE ANALYZED: 5/22/00

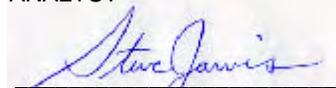
REPORT ISSUED: 9/12/00  
PAGE: 2 of 8

**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6700	CNSY-NS67-12-02		1 (of 1)	BROWN SOFT POWDERY SOIL WITH AGGREGATES AND DEBRIS			3 CELLULOSE 7 GLASS FIBERS	3 AGGREGATES 87 OTHER
6701	CNSY-NS67-12-03		1 (of 1)	BROWN SOFT POWDERY SOIL WITH GLUE, ALUMINUM FOIL AND PAPER			40 CELLULOSE 3 GLASS FIBERS	3 METAL 54 OTHER
6702	CNSY-NS67-12-04		1 (of 1)	BROWN SOFT POWDERY SOIL WITH AGGREGATES AND DEBRIS			5 CELLULOSE 3 GLASS FIBERS	3 AGGREGATES 89 OTHER
6703	CNSY-NS67-12-05		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH DEBRIS			2 CELLULOSE 2 GLASS FIBERS	30 AGGREGATES 66 OTHER
6704	CNSY-NS67-12-06		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH DEBRIS			2 CELLULOSE 1 GLASS FIBERS	25 AGGREGATES 72 OTHER
6705	CNSY-NS67-12-07		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH DEBRIS			2 CELLULOSE 2 GLASS FIBERS	10 AGGREGATES 86 OTHER
7379	CNSY-NS67-01-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH PAINT			35 CELLULOSE 50 GLASS FIBERS	15 OTHER

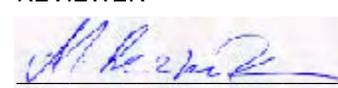
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/8/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

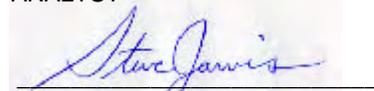
REPORT ISSUED: 9/12/00  
 PAGE: 3 of 8

**RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)**

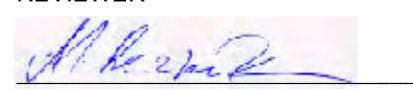
SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7380	CNSY-NS67-01-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH PAINT			30 CELLULOSE 60 GLASS FIBERS	10 OTHER
7381	CNSY-NS67-01-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH PAINT			30 CELLULOSE 60 GLASS FIBERS	10 OTHER
7382	CNSY-NS67-02-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7383	CNSY-NS67-02-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 25 GLASS FIBERS	30 PERLITE 10 OTHER
7384	CNSY-NS67-02-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7385	CNSY-NS67-03-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			35 CELLULOSE 35 GLASS FIBERS	20 PERLITE 10 OTHER
7386	CNSY-NS67-03-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/8/00

ANALYST

  
 STEVE JARVIS

REVIEWER

  
 ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

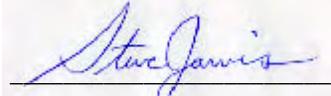
REPORT ISSUED: 9/12/00  
 PAGE: 4 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7387	CNSY-NS67-03-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7388	CNSY-NS67-04-01		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD CEMENTITIOUS TO GRANULAR			1 GLASS FIBERS	30 AGGREGATES 69 OTHER
7389	CNSY-NS67-04-02		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD CEMENTITIOUS TO GRANULAR				30 AGGREGATES 70 OTHER
7390	CNSY-NS67-04-03		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD CEMENTITIOUS TO GRANULAR				35 AGGREGATES 65 OTHER
7391	CNSY-NS67-04-04		1 (of 1)	GRAY HARD SILTY TO GRANULAR WITH PAINT			1 CELLULOSE	20 PERLITE 79 OTHER
7392	CNSY-NS67-04-05		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD SILTY TO GRANULAR			1 CELLULOSE 1 GLASS FIBERS	25 PERLITE 73 OTHER

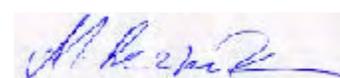
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
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 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

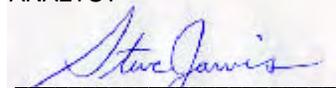
REPORT ISSUED: 9/12/00  
 PAGE: 5 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7393	CNSY-NS67-04-06		1 (of 1)	GRAY HARD CEMENTITIOUS TO SILTY TO GRANULAR WITH PAINT			1 CELLULOSE	20 AGGREGATES 20 PERLITE 59 OTHER
7394	CNSY-NS67-04-07		1+2 (of 2)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD SILTY TO GRANULAR			1 CELLULOSE 1 GLASS FIBERS	25 PERLITE 73 OTHER
7395	CNSY-NS67-05-01		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR				35 AGGREGATES 65 OTHER
7396	CNSY-NS67-05-02		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR			1 CELLULOSE	40 AGGREGATES 59 OTHER
7397	CNSY-NS67-05-03		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR			1 CELLULOSE	40 AGGREGATES 59 OTHER
7398	CNSY-NS67-05-04		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR				40 AGGREGATES 60 OTHER
7399	CNSY-NS67-05-05		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR				40 AGGREGATES 60 OTHER

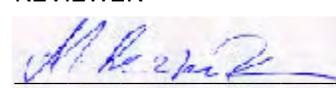
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
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ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

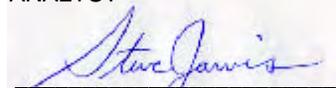
REPORT ISSUED: 9/12/00  
 PAGE: 6 of 8

**RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7400	CNSY-NS67-05-06		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR			1 CELLULOSE	45 AGGREGATES 54 OTHER
7401	CNSY-NS67-05-07		1 (of 1)	GRAY HARD CEMENTITIOUS TO GRANULAR			1 CELLULOSE 1 GLASS FIBERS	35 AGGREGATES 63 OTHER
7402	CNSY-NS67-06-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH YELLOW FIBERS, ALUMINUM FOIL, AND PAPER			7 CELLULOSE 25 GLASS FIBERS	3 METAL 65 OTHER
7403	CNSY-NS67-06-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS			2 CELLULOSE 25 GLASS FIBERS	73 OTHER
7404	CNSY-NS67-06-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH YELLOW FIBERS AND PAINT			2 CELLULOSE 30 GLASS FIBERS	68 OTHER
7405	CNSY-NS67-07-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			15 CELLULOSE 40 GLASS FIBERS	45 OTHER
7406	CNSY-NS67-07-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS, PAINT, AND EXPANDED GLASS			10 CELLULOSE 15 GLASS FIBERS	10 EXP. GLASS 65 OTHER

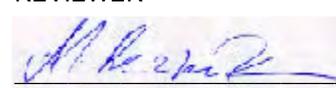
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/8/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-4  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/8/00

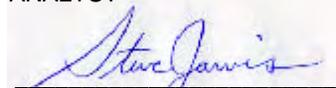
REPORT ISSUED: 9/12/00  
 PAGE: 7 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7407	CNSY-NS67-07-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS, PAINT, AND EXPANDED GLASS			15 CELLULOSE 15 GLASS FIBERS	5 EXP. GLASS 65 OTHER
7408	CNSY-NS67-08-01		1 (of 1)	RED AND WHITE SEMI-HARD RESILIENT MUD-PAINT WITH FIBERS AND EXPANDED GLASS			8 CELLULOSE 2 GLASS FIBERS 3 SYNTHETICS	7 EXP. GLASS 80 OTHER
7409	CNSY-NS67-08-02		1 (of 1)	GRAY SOFT POWDERY TO WOVEN FIBROUS WITH PAINT			3 CELLULOSE 80 GLASS FIBERS	17 OTHER
7410	CNSY-NS67-08-03		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS WITH EXPANDED GLASS			2 CELLULOSE 25 GLASS FIBERS	3 EXP. GLASS 70 OTHER
7411	CNSY-NS67-09-01		1 (of 1)	WHITE SOFT POWDERY WITH FIBERS, AGGREGATES, MICA, AND PAINT			2 CELLULOSE 1 GLASS FIBERS 1 SYNTHETICS	5 AGGREGATES 3 MICA/ VERMICULITE 88 OTHER

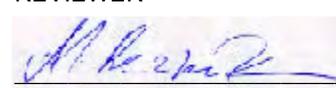
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/9/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-5  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/9/00

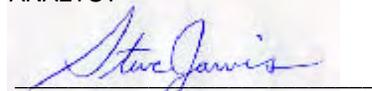
REPORT ISSUED: 9/12/00  
 PAGE: 8 of 8

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

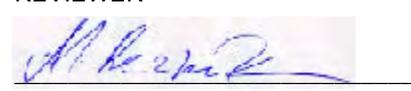
SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7412	CNSY-NS67-09-02		1+2+3 (of 3)	1. WHITE HARD SILTY WITH PAINT; 2. GRAY HARD CEMENTITIOUS TO GRANULAR; 3. GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			10 CELLULOSE 10 GLASS FIBERS	3 AGGREGATES 10 PERLITE 67 OTHER
7413	CNSY-NS67-09-03		1 (of 1)	WHITE SOFT POWDERY WITH FIBERS, MICA, AND PAINT			1 CELLULOSE 1 GLASS FIBERS	2 MICA/ VERMICULITE 96 OTHER
7414	CNSY-NS67-10-01		1 (of 1)	TAN SOFT POWDERY TO FIBROUS		30 CHRYSOTILE 2 AMOSITE	1 CELLULOSE 1 GLASS FIBERS	66 OTHER
7415	CNSY-NS67-10-02			NOT ANALYZED	NOT ANALYZED			
7416	CNSY-NS67-10-03			NOT ANALYZED	NOT ANALYZED			

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/9/00

ANALYST

  
 STEVE JARVIS

REVIEWER

  
 ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**BUILDING NS675**

## **PART 1**

### **Summary of Findings**

**FACILITY NO.: NS675**  
**DESCRIPTION: Dental Clinic**

Building NS675 is a two-story structure totaling 19,951 square feet. The building was constructed in 1977.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in May 2000. This survey was conducted to provide an inventory of friable ACM and to assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. The following table provides an inventory of friable ACM identified:

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
2	Damaged linoleum flooring w/adhesive, yellow	137A, 125, 212, 219, 224, 226	Misc	130 SF	Damaged

Legend: Misc = Miscellaneous

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any “assumed” or “presumed” asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

**DAMAGED FRIABLE ACM:**

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
2	Linoleum flooring w/adhesive, yellow	137A, 125, 212, 219, 224, 226	130 SF	Repair

Abatement Comments: None

**Non-Damaged/Friable ACM:**

*DoD policy allows transfer of properties “as is” if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process*

## FACILITY NO.: NS675

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

HA #	Material Description	Approximate Location	Sampled By/Year	Sample I.D.	% Asbestos	ACM Y/N
1	Pipe fitting insulation on steam lines	144, C6	CAPE 2000	CNSY-NS675-01-01-QC CNSY-NS675-01-01 CNSY-NS675-01-02 CNSY-NS675-01-03	NAD NAD NAD NAD	No
2	Damaged linoleum flooring with adhesive, yellow	137A, 125, 212, 219, 224, 226	CAPE 2000	CNSY-NS675-02-01 CNSY-NS675-02-02 CNSY-NS675-02-03	20% CHR NA NA	Yes
3	2'x4' ceiling tile, grooved-pinhole	C1-C7, 101, 105, 106, 106A, 107, 111, 113, 127, 213, 231, 232	CAPE 2000	CNSY-NS675-03-01 CNSY-NS675-03-02 CNSY-NS675-03-03	NAD NAD NAD	No
4	Damaged gypsum wallboard with joint compound	136A, 206, 212	CAPE 2000	CNSY-NS675-04-01-QC CNSY-NS675-04-01 CNSY-NS675-04-02 CNSY-NS675-04-03	NAD NAD NAD NAD	No
5	Damaged canvas wrap on tank	146	CAPE 2000	CNSY-NS675-05-01 CNSY-NS675-05-02 CNSY-NS675-05-03	NAD NAD NAD	No
6	Damaged capping mastic on hot water lines	146	CAPE 2000	CNSY-NS675-06-01 CNSY-NS675-06-02 CNSY-NS675-06-03	NAD NAD NAD	No

Legend: NAD = No Asbestos Detected CHR = Chrysotile NA = Not Analyzed

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

## **PART 2**

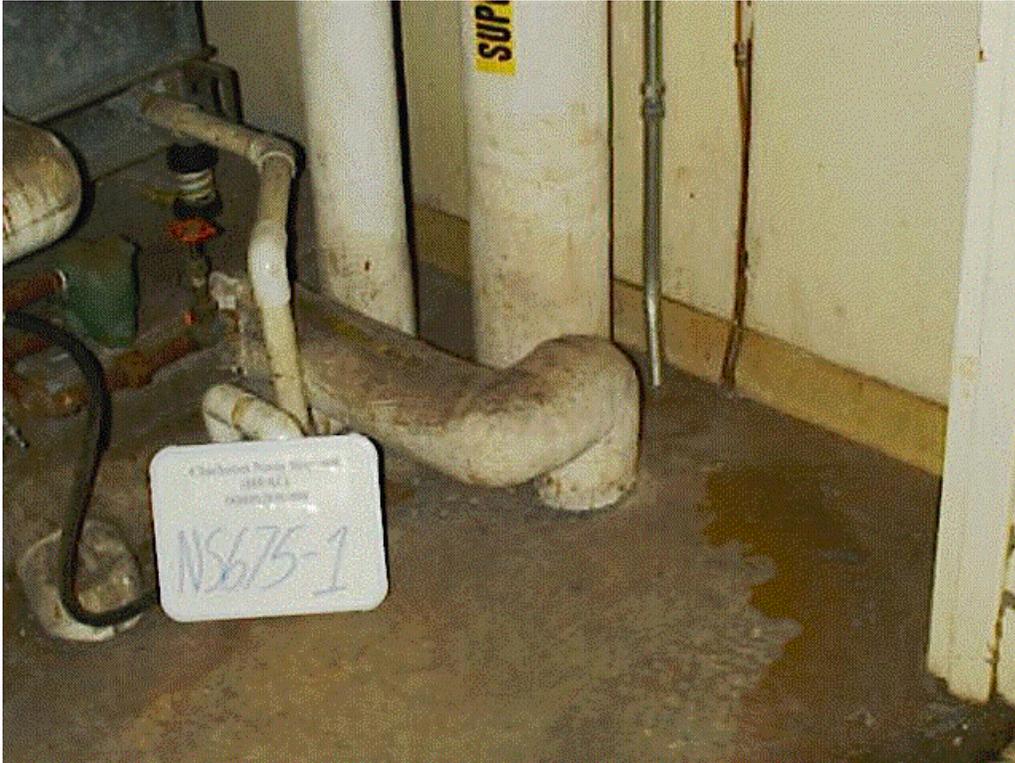
### **Drawings Indicating Bulk Sample Locations and Extent of Damaged Friable ACM**



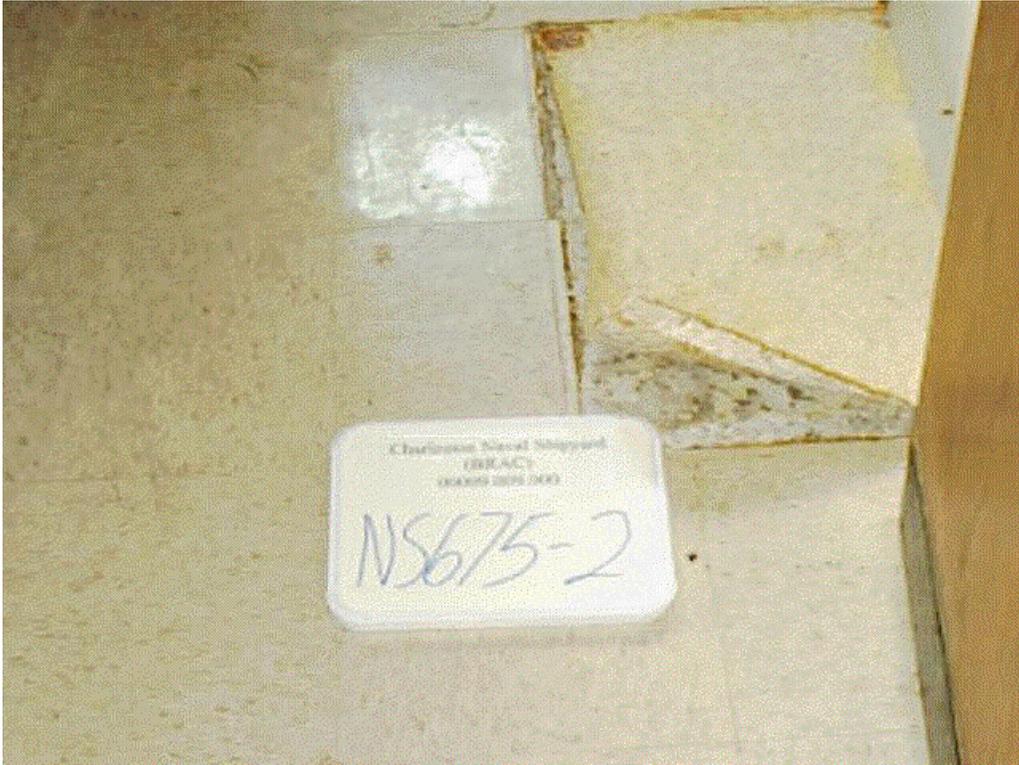


## **PART 3**

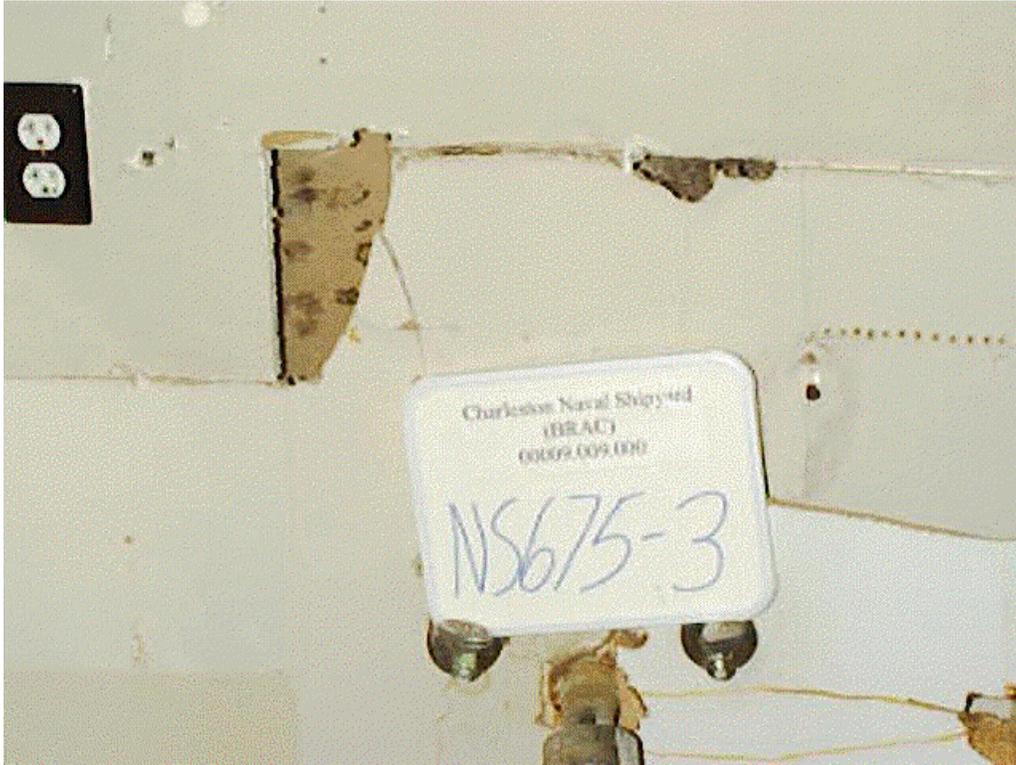
### **Photographs of Friable and Damaged Friable Homogeneous Areas**



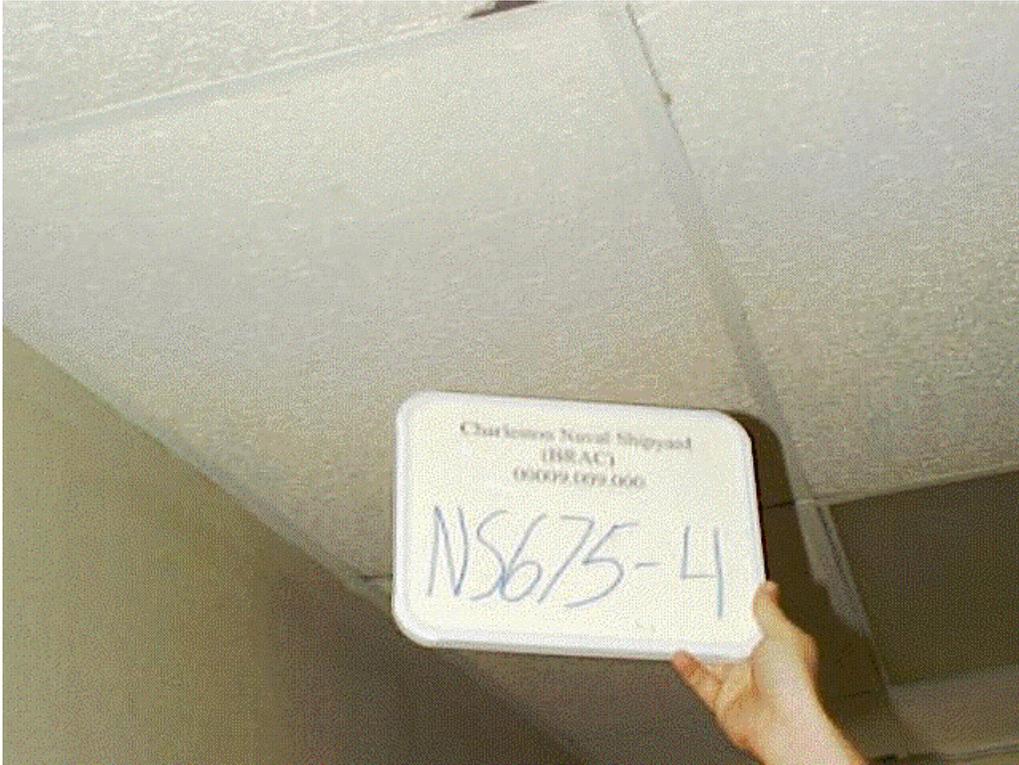
HA #	Material Description	Material Location	ACM (YES/NO)
1	Pipe fitting insulation on steam lines	144, C6	NO



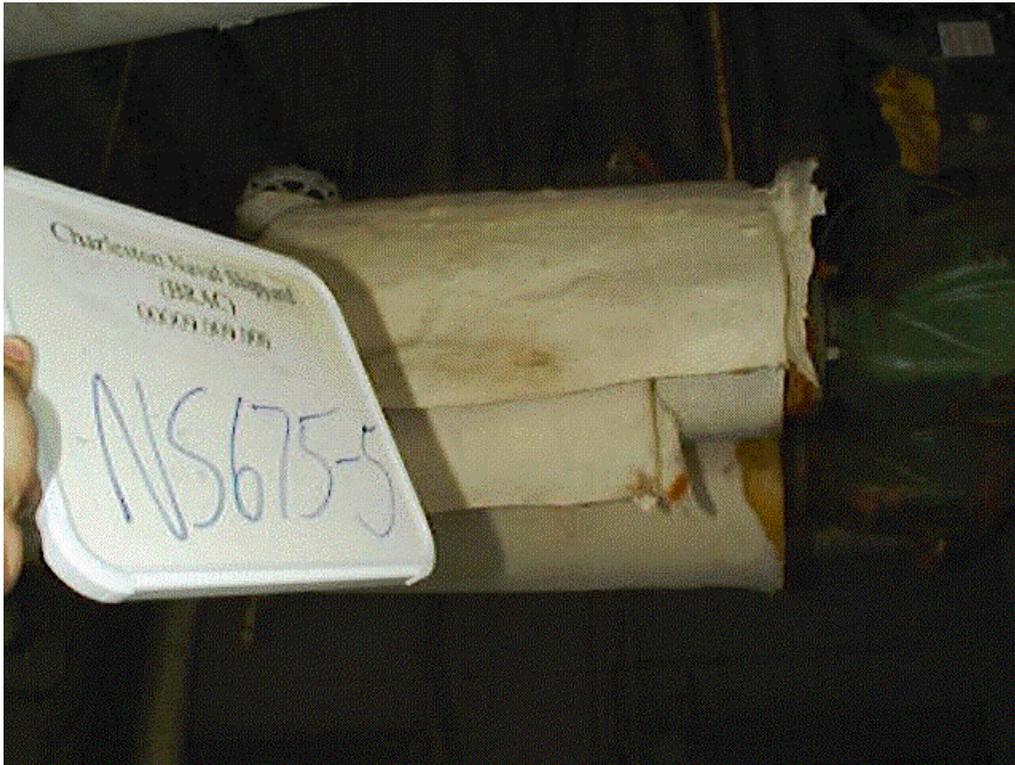
HA #	Material Description	Material Location	ACM (YES/NO)
2	Damaged linoleum flooring with adhesive, yellow	137A, 125, 212, 219, 224, 226	YES



HA #	Material Description	Material Location	ACM (YES/NO)
4	Damaged gypsum wallboard with joint compound	136A, 206, 212	No



HA #	Material Description	Material Location	ACM (YES/NO)
3	2' x 4' ceiling tile grooved-pinhole	C1-C7, 101, 105, 106, 106A, 107, 111, 113, 127, 213, 231, 232	NO



HA #	Material Description	Material Location	ACM (YES/NO)
5	Damaged canvas wrap on tank	146	NO



HA #	Material Description	Material Location	ACM (YES/NO)
6	Damaged capping mastic on hot water lines	146	NO

## **PART 4**

### **Laboratory Bulk Sample Analysis Reports**

**CAPE ENVIRONMENTAL MANAGEMENT INC**

2302 Parklake Drive, Suite 200, Atlanta, GA 30345

770/908-7200 Fax 770/908-7219

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE Environmental	
CLIENT NAME: SDIV	PROJECT MANAGER: Juan Hernandez
PROJECT NAME: Charleston	PROJECT NUMBER: 00009.009.000
ANALYSIS REQUESTED: PLM <input type="checkbox"/>	OTHER:
TURNAROUND TIME REQUESTED: SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input type="checkbox"/>	

SAMPLE ID		SAMPLE ID	
1	CNSY-NS675-01-01	16	CNSY-NS675-06-01
2	CNSY-NS675-01-02	17	CNSY-NS675-06-02
3	CNSY-NS675-01-03	18	CNSY-NS675-06-03
4	CNSY-NS675-02-01	19	
5	CNSY-NS675-02-02	20	
6	CNSY-NS675-02-03	21	
7	CNSY-NS675-03-01	22	
8	CNSY-NS675-03-02	23	
9	CNSY-NS675-03-03	24	
10	CNSY-NS675-04-01	25	
11	CNSY-NS675-04-02	26	
12	CNSY-NS675-04-03	27	
13	CNSY-NS675-05-01	28	
14	CNSY-NS675-05-02	29	
15	CNSY-NS675-05-03	30	

SPECIAL INSTRUCTIONS:

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DATE:	TIME:	DATE:	TIME:
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DATE:	TIME:	DATE:	TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-5  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/9/00

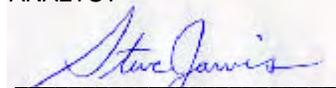
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 4

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7417	CNSY-NS675-01-01		1 (of 1)	GRAY SOFT WOVEN POWDERY TO WOVEN FIBROUS WITH GRAY AND WHITE PAINT			15 CELLULOSE 10 GLASS FIBERS 1 SYNTHETICS	74 OTHER
7418	CNSY-NS675-01-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			15 CELLULOSE 15 GLASS FIBERS	70 OTHER
7419	CNSY-NS675-01-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			10 CELLULOSE 30 GLASS FIBERS	60 OTHER
7420-1	CNSY-NS675-02-01		1+2 (of 3)	1. OFF-WHITE SEMI-HARD RESILIENT; 2. GRAY SOFT FIBROUS WITH GLUE		20 CHRYSOTILE	3 CELLULOSE	1 MASTIC 50 VINYL 26 OTHER
7420-2	CNSY-NS675-02-01		3 (of 3)	WHITE HARD SILTY WITH GLUE				5 MASTIC 95 OTHER
7421	CNSY-NS675-02-02			NOT ANALYZED	NOT ANALYZED			
7422	CNSY-NS675-02-03			NOT ANALYZED	NOT ANALYZED			

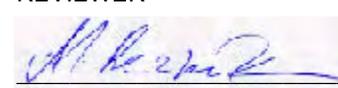
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 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/9/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-5  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/9/00

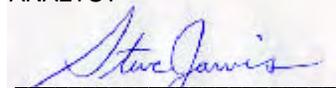
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 4

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7423	CNSY-NS675-03-01		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7424	CNSY-NS675-03-02		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7425	CNSY-NS675-03-03		1 (of 1)	GRAY SOFT FIBROUS TO GRANULAR TO POWDERY WITH PAINT			30 CELLULOSE 30 GLASS FIBERS	30 PERLITE 10 OTHER
7426	CNSY-NS675-04-01		1+2 (of 2)	1. GRAY SOFT FIBROUS WITH PAINT; 2. LIGHT GRAY HARD SILTY WITH FIBERS			75 CELLULOSE	25 OTHER
7427	CNSY-NS675-04-02		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2. GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			5 CELLULOSE	2 MICA/ VERMICULITE 93 OTHER
7428	CNSY-NS675-04-03		1 (of 1)	WHITE HARD SILTY WITH MICA (J/C) AND PAPER			5 CELLULOSE	5 MICA/ VERMICULITE 90 OTHER

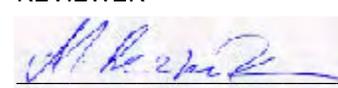
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/9/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: CHARLESTON NSY  
 PROJECT NO: 00009.009.000

LAB JOB NO: B0114-5  
 DATE RECEIVED: 5/30/00  
 DATE ANALYZED: 6/9/00

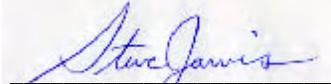
REPORT ISSUED: 9/12/00  
 PAGE: 3 of 4

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7429	CNSY-NS675-05-01		1 (of 1)	WHITE SEMI-HARD WOVEN FIBROUS WITH GLUE, ALUMINUM FOIL, PAINT, AND PAPER			8 CELLULOSE 35 GLASS FIBERS	2 MASTIC 15 METAL 40 OTHER
7430	CNSY-NS675-05-02		1 (of 1)	WHITE SEMI-HARD WOVEN FIBROUS WITH GLUE, ALUMINUM FOIL, PAINT, AND PAPER			8 CELLULOSE 30 GLASS FIBERS	2 MASTIC 15 METAL 45 OTHER
7431	CNSY-NS675-05-03		1 (of 1)	WHITE SEMI-HARD WOVEN FIBROUS WITH GLUE, ALUMINUM FOIL, PAINT, AND PAPER			10 CELLULOSE 30 GLASS FIBERS	1 MASTIC 15 METAL 44 OTHER
7432	CNSY-NS675-06-01		1 (of 1)	WHITE SEMI-HARD RESILIENT TO WOVEN FIBROUS WITH GLUE, ALUMINUM FOIL, PAPER, AND FIBERGLASS			20 CELLULOSE 7 GLASS FIBERS	10 MASTIC 10 METAL 53 OTHER
7433	CNSY-NS675-06-02		1 (of 1)	WHITE SEMI-HARD RESILIENT TO WOVEN FIBROUS WITH GLUE, ALUMINUM FOIL, MUD-PAINT, AND FIBERGLASS			20 CELLULOSE 10 GLASS FIBERS	10 MASTIC 10 METAL 50 OTHER

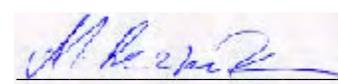
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/9/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: CHARLESTON NSY  
PROJECT NO: 00009.009.000

LAB JOB NO: B0114-5  
DATE RECEIVED: 5/30/00  
DATE ANALYZED: 6/9/00

REPORT ISSUED: 9/12/00  
PAGE: 4 of 4

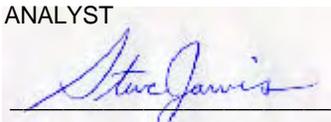
**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
7434	CNSY-NS675-06-03		1 (of 1)	WHITE SEMI-HARD RESILIENT TO WOVEN FIBROUS WITH GLUE, ALUMINUM FOIL, MUD-PAINT, AND FIBERGLASS			20 CELLULOSE 10 GLASS FIBERS	3 MASTIC 15 METAL 52 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.

FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 6/9/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**MATERIALS ANALYTICAL SERVICES, INC.**  
**3945 LAKEFIELD COURT**  
**SUWANEE, GA 30024**  
**(770) 866-3200**

**Client:** Cape Environmental Management  
**Job Name:** Charleston  
**Job Number:** 00009.009.000

**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
CNSY-81-01-01 QC	M23856- 001a			20% Chrysotile
CNSY-81-01-01 QC	M23856- 001b			3% Chrysotile
CNSY-81-03-01 QC	M23856- 002			NO ASBESTOS OBSERVED
CNSY-81-05-01 QC	M23856- 003			5% Chrysotile 5% Amosite
CNSY-86-01-01 QC	M23856- 004a			NO ASBESTOS OBSERVED
CNSY-86-01-01 QC	M23856- 004b			20% Chrysotile
CNSY-86-04-01 QC	M23856- 005a			3% Chrysotile
CNSY-86-04-01 QC	M23856- 005b			20% Chrysotile
CNSY-86-10-01 QC	M23856- 006			NO ASBESTOS OBSERVED
CNSY-86-13-01 QC	M23856- 007			NO ASBESTOS OBSERVED
CNSY-86-17-01 QC	M23856- 008			NO ASBESTOS OBSERVED
CNSY-141-01-01 QC	M23856- 009a			10% Chrysotile
CNSY-141-01-01 QC	M23856- 009b			NO ASBESTOS OBSERVED
CNSY-199-03-01 QC	M23856- 010			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011a			NO ASBESTOS OBSERVED
CNSY-220-01-01 QC	M23856- 011b			10% Chrysotile
CNSY-220-05-01 QC	M23856- 012PT			Trace% Chrysotile
CNSY-220-07-01 QC	M23856- 013			NO ASBESTOS OBSERVED
CNSY-658-01-01 QC	M23856- 014a			10% Chrysotile
CNSY-658-01-01 QC	M23856- 014b			10% Chrysotile
CNSY-658-04-01 QC	M23856- 015			NO ASBESTOS OBSERVED
CNSY-N675-01-01	M23856- 016			NO ASBESTOS OBSERVED
CNSY-N675-04-01	M23856- 017			NO ASBESTOS OBSERVED
CNSY-1886-02-01 QC	M23856- 018			NO ASBESTOS OBSERVED
CNSY-1886-04-01 QC	M23856- 019			NO ASBESTOS OBSERVED
CNSY-1886-05-01 QC	M23856- 020			NO ASBESTOS OBSERVED
CNSY-1892-01-01 QC	M23856- 021			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

**MATERIALS ANALYTICAL SERVICES, INC.****3945 LAKEFIELD COURT****SUWANEE, GA 30024****(770) 866-3200****Client: Cape Environmental Management****Job Name: Charleston****Job Number: 00009.009.000****Summary of Results of analysis by Polarized Light Microscopy (PLM)**

<b>CLIENT #</b>	<b>MAS ID # - SPL #</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>ANALYSIS</b>
CNSY-NS67-01-01 Q1	M23856- 022			NO ASBESTOS OBSERVED
CNSY-NS67-03-01 Q1	M23856- 023			NO ASBESTOS OBSERVED
CNSY-NS67-08-01 Q1	M23856- 024			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

## **Certificates**

### **Laboratory and Personnel Certifications**

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# *The Environmental Institute*

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## *Brian Downes*

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Social Security Number 210-58-8395

*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 Refresher*

*June 23, 2000*

Course Date

*6624*

Certificate Number

*June 23, 2000*

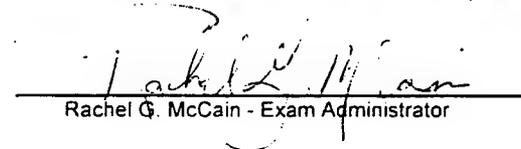
Examination Date

*June 22, 2001*

Expiration Date



David W. Hogue - Course Director



Rachel G. McCain - Exam Administrator



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



ASBESTOS ABATEMENT LICENSE

No. 22770

This certifies that

*Brian K. Downes*

*210-CEJ-3395*

doing business as *Cape Environmental Management*

has satisfactorily completed the training required by South Carolina Regulation No. 61-86.1 and the EPA Model Accreditation Plan, 40 CFR 763 Subpart E Appendix C, for the category of

*Consultant/Building Inspector*

The holder of this license shall comply with all the requirements of said Regulation.

This License, License Number, or any Representation thereof, is not transferable to any other licensee or company. Use of this License is only authorized for the licensee and Company whose name appears hereon and shall expire one year from *05/19/99*.

04/24/00

ORIGINAL

04/24/00 09:35



*Richard D. Sharpe*

Richard D. Sharpe, Director  
Air Compliance Management Division  
Bureau of Air Quality  
South Carolina Department of Health & Environmental Control

CR-001126



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# The Environmental Institute

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## David Bratley

---

Social Security Number - 504 44 4358

*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 Refresher*

January 20, 2000

Course Date

6419

Certificate Number

January 20, 2000

Examination Date

January 19, 2001

Expiration Date

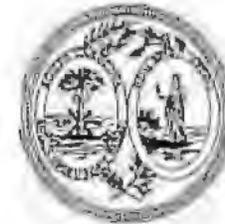


David W. Hogue - Course Director



Rachel G. McCain - Exam Administrator





ASBESTOS ABATEMENT LICENSE

No. 22840

This certifies that

*W David Bratley*

*594-BJ-4358*

doing business as *Cape Environmental Management Inc*

has satisfactorily completed the training required by South Carolina Regulation No. 61-86.1 and the EPA Model Accreditation Plan, 40 CFR 763 Subpart E Appendix C, for the category of

*Consultant/Building Inspector*

The holder of this license shall comply with all the requirements of said Regulation.

This License, License Number, or any Representation thereof, is not transferable to any other licensee or company. Use of this License is only authorized for the licensee and Company whose name appears hereon and shall expire one year from

*01/20/00.*

04/24/00

*Richard D. Sharpe*

Richard D. Sharpe, Director  
Air Compliance Management Division  
Bureau of Air Quality  
South Carolina Department of Health & Environmental Control

04/24/00 09:44



ORIGINAL

CR-001126

United States Department of Commerce  
National Institute of Standards and Technology

**NVLAP**®

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Certificate of Accreditation

ISO/IEC GUIDE 25:1990  
ISO 9002:1987



**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

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 102111-0

CAPE ENVIRONMENTAL MANAGEMENT, INC.

2302 Parklake 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)*

A handwritten signature in black ink that reads "David F. Alderman".

*For the National Institute of Standards and Technology*

United States Department of Commerce  
National Institute of Standards and Technology

NVLAP<sup>®</sup>  
Certificate of Accreditation

ISO/IEC GUIDE 25:1990  
ISO 9002:1987



**MATERIALS ANALYTICAL SERVICES, INC.**  
SUWANEE, 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 of 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: 101235-0

ISO/IEC GUIDE 25:1990  
ISO 9002:1987

## Scope of Accreditation



Page: 1 of 1

**BULK ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 101235-0**

**MATERIALS ANALYTICAL SERVICES, INC.**

3945 Lakefield Court

Suwanee, GA 30024

Dr. William E. Longo

Phone: 770-866-3200 Fax: 770-866-3259

E-Mail: [wlongo@mastest.com](mailto:wlongo@mastest.com)

URL: <http://www.mastest.com>

*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

## **Appendix A**

**Survey Data of Field Verification of Damaged ACM Quantities  
in Buildings 31, 32, 33, 34, 35, and 36 at  
CNSY Charleston, Charleston, SC**

## INTRODUCTION

Cape Environmental Management Inc (CAPE) was retained by Southern Division, Naval Facilities Engineering Command (Southern Division NAVFACENGCOM) to abate and repair damaged friable asbestos in buildings 31-36 located at the Charleston Naval Shipyard, Charleston, SC. CAPE utilized data from a previous survey report prepared by BAT Associates, Inc.

CAPE provided the field verification to update the inventory of friable and damaged friable ACM in each building and assess the condition of each friable ACM homogeneous area for compliance with Department of Defense (DoD) policy on asbestos at Base Realignment and Closure (BRAC) properties. DoD policy allows transfer of properties "as is" if they contain ACM which is in good condition. Therefore, any friable ACM's identified in this report as being in good condition, and which remain in good condition, are not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.

The documentation in the survey findings' section is a compilation of BAT Associates, Inc. and CAPE field verification of suspect asbestos-containing materials.

## **Survey Findings**

**FACILITY NO.: 31****DESCRIPTION: Living Quarters (Vacant)**

Building 31 is a three-level structure totaling 35,880 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in April 2000. This survey was conducted to update the existing inventory of friable ACM and to re-assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. Findings from previous ACM surveys were incorporated into this survey as appropriate. The following table provides an inventory of friable ACM identified:

**Friable ACM Inventory**

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged floor tile, 12"x12" green with white streaks w/black mastic	First floor, lobby	Misc.	30 SF	Damaged
2	Damaged floor tile, 12"x12" off-white with brown streaks w/black mastic	First floor, East wing rooms and corridor	Misc.		Damaged
5	Damaged floor tile, 12"x12" floral green w/black mastic	First floor, stairwell #1 landing	Misc.		Damaged
6	Damaged floor tile, 12"x12" black w/black mastic	Below HA # 5, 7, and 8, first floor, west wing rooms and corridor	Misc.		Damaged
7	Damaged floor tile, 12"x12" off-white with brown streaks w/black mastic	First floor, west wing rooms and corridor	Misc.		Damaged
20	Pipe Fitting Insulation, 3" white with canvas wrap	Piping to all mounted radiators on all floors	TSI	102 EA	Damaged
25	Soil	Crawl Space	Misc.	12,000 SF	Damaged

Misc. = Miscellaneous

TSI = Thermal System Insulation

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 31

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

#### *Damaged Friable ACM*

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
1	Floor tile, 12"x12" green with white streaks w/black mastic	First floor, lobby, main office and day room (under carpet)	30 SF	Remove /Replace
2	Floor tile, 12"x12" off-white with brown streaks w/black mastic	First floor, East wing rooms and corridor		Remove /Replace
5	Floor tile, 12"x12" floral green w/black mastic	First floor, stairwell #1 landing		Remove /Replace
6	Floor tile, 12"x12" black w/black mastic	Below HA # 5, 7, and 8		Remove /Replace
7	Floor tile, 12"x12" off-white with brown streaks w/black mastic	First floor, west wing rooms and corridor		Remove /Replace
20	Pipe Fitting Insulation, 3" white with canvas wrap	Piping to mounted radiator on 3rd floor	1EA	Remove /Replace
25	Soil	Crawl Space	12,000 SF	Remove /Replace

#### Abatement Comment:

HA #5: Landing is approximately 6' above the floor in the stairwell.

#### ***Non-Damaged/Friable ACM:***

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 31

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE, as well as a summary of materials assumed to contain asbestos or identified as ACM during previous asbestos surveys. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

**Summary of Suspect Friable ACM Bulk Sample Analysis Results**

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
1	Floor Tile, 12"x12" green with white streaks w/black mastic	First floor, lobby, main office and day room (under carpet)	CAPE / 2000	31-01-01 31-02-02 31-03-03	NAD(T), 2% CHR(M) NA NA	YES
2	Floor Tile, 12"x12" off-white with brown streaks w/black mastic	First floor, east wing rooms and corridor	CAPE/2000 BAT / 2000 CAPE / 2000 CAPE / 2000	31-02-01-QC 31-2-1 31-02-02 31-03-03	8% CHR (T), 15% CHR(M) 10% CHR (T), 2% CHR(M) 6% CHR(T), 2% CHR(M) NA	YES
3	Floor Tile, 9"x9" black w/black mastic	First floor, east wing rooms and corridor (under HA #2)	BAT / 2000	31-5-01	7% CHR(T), 2% CHR(M)	YES
4	Floor Tile, 9"x9" red w/black mastic	First floor, bag room	CAPE / 2000	31-04-01 31-04-02 31-04-03	15% CHR(T), 2% CHR(M) NA NA	YES
5	Floor Tile, 12"x12" floral green w/black mastic	First floor, stairwell #1 landing	BAT / 2000	31-5-1a 31-5-2a 31-5-3a	NAD(T), 3% CHR(M)	YES
6	Floor Tile, 12"x12" black w/black mastic	Below HA # 5, 7, and 8	BAT / 2000	31-6-1 31-6-2 31-6-3	NAD(T), 3% CHR(M)	YES
7	Floor Tile, 12"x12" off-white with brown streaks w/black mastic	First floor, west wing rooms and corridor	CAPE/2000 BAT / 2000 CAPE / 2000 CAPE / 2000	31-02-01-QC 31-2-1 31-02-02 31-03-03	8% CHR (T), 15% CHR(M) 10% CHR (T), 1-2% CHR(M) 6% CHR(T), 2% CHR(M) NA	YES
8	Floor Tile, 12"x12" brown w/black mastic	Second floor, in room by stairwell #1; throughout the third floor	BAT / 2000	31-8-1 31-8-2 31-8-3	NAD	NO

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
9	Cove Base, brown with brown mastic	Throughout the building	BAT / 2000	31-9-1 31-9-2 31-9-3	NAD	NO
10	Drywall, on walls	Throughout the building	BAT / 2000	31-10-1 31-10-2 31-10-3	NAD	NO
11	Joint Sealer Compound, on drywall on walls	Throughout the building	BAT / 2000	31-11-1 31-11-2 31-11-3	NAD	NO
12	Ceiling Tile, 2'x2' white suspended with rough texture	First floor, room 112	BAT / 2000	31-12-1 31-12-2 31-12-3	NAD	NO
13	Ceiling Tile, 2'x4' white suspended groove and pinhole (old)	Majority of rooms	BAT / 2000	31-13-1 31-13-2 31-13-3	NAD	NO
14	Ceiling Tile, 2'x4' white suspended groove and pinhole (new)	Majority of rooms	BAT / 2000	31-14-1 31-14-2 31-14-3	NAD	NO
15	Ceiling Tile, 2'x2' white suspended groove and pinhole (old)	Majority of corridors	BAT / 2000	31-15-1 31-15-2 31-15-3	NAD	NO
16	Ceiling Tile, 2'x2' white suspended groove and pinhole (new)	Majority of corridors	BAT / 2000	31-16-1 31-16-2 31-16-3	NAD	NO
17	Pipe Insulation, 3" white with canvas wrap on domestic water	All floors, in walls behind all water fixtures	BAT / 2000	31-17-1 31-17-2 31-17-3	NAD	NO
20	Pipe Fitting Insulation, 3" white with canvas wrap	Piping to all mounted radiators	BAT / 2000	None	Assumed to contain asbestos (Inaccessible In Walls)	YES
21	Pipe Insulation, 6" main steam	In crawl space and between buildings 31 and 32	BAT / 2000 BAT / 2000 BAT / 2000	31-21-1 31-21-2 31-21-3	NAD	NO
22	Window Glazing, gray on interior	On all interior windows	CAPE / 2000 CAPE / 2000 CAPE / 2000 CAPE / 2000	31-22-01-QC 31-22-01 31-22-02 31-22-03	NAD	NO

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
23	Tank insulation, hot water	In exterior mechanical room	BAT / 2000 BAT / 2000 BAT / 2000	31-23-1 31-23-2 31-23-3	NAD	NO
24	Roofing, built-up	Roof	BAT / 2000 BAT / 2000 BAT / 2000	31-24-1 31-24-2 31-24-3	NAD	NO
25	Soil	Crawlspace	CAPE / 2000 CAPE / 2000 CAPE / 2000	31-25-01 31-25-02 31-25-03	NAD NAD <1 % CHR	YES*
26	Pipe Fitting Insulation	Crawlspace	CAPE / 2000 CAPE / 2000 CAPE / 2000	31-26-01 31-26-02 31-26-03	NAD NAD NAD	NO
27	Pipe Insulation	Crawlspace	CAPE / 2000 CAPE / 2000 CAPE / 2000	31-27-01 31-27-02 31-27-03	NAD NAD NAD	NO

**Legend:**      NAD = No Asbestos Detected      CHR = Chrysotile  
                         AMO = Amosite      (T) = Tile layer      (M) = Mastic layer

\* = Assumed to have ACM mixed with soil.

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

**FACILITY NO.: 32****DESCRIPTION: Living Quarters (Vacant)**

Building 32 is a three-level structure totaling 35,880 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in April 2000. This survey was conducted to update the existing inventory of friable ACM and to re-assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. Findings from previous ACM surveys were incorporated into this survey as appropriate. The following table provides an inventory of friable ACM identified:

**Friable ACM Inventory**

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
2	Damaged floor tile, 9"x9" green with white streaks w/black mastic	Second floor, scrub room	Misc.	38 SF	Damaged
5	Damaged floor tile, 12"x12" gray with off-white and brown streaks w/black mastic	First floor, corridors, second floor, rooms and corridors	Misc.		Damaged
7	Damaged floor tile, 12"x12" black w/black mastic	Third floor, corridors	Misc.		Damaged
8	Damaged Floor Tile, 12"x12" off-white with olive streaks w/black mastic	Third floor, rooms and corridors	Misc.		Damaged
12	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	TSI	450 EA	Damaged
13	Pipe Fitting Insulation, 3" white with canvas wrap on domestic water	All floors, in walls behind all water fixtures	TSI		Good
21	Pipe Fitting Insulation	Crawlspace	TSI		Good
17	Pipe Insulation, 12" white with metal wrap	In crawl space and between buildings 31 and 32, and 32 and 33	TSI	10 LF	Damaged
23	Soil	Crawlspace	Misc.	12,000 SF	Damaged

Legend: Misc. = Miscellaneous      TSI = Thermal System Insulation

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 32

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

#### *Damaged Friable ACM*

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
2	Floor tile, 9"x9" green with white streaks w/black mastic	Second floor, scrub room	38 SF	Remove/replace
5	Floor tile, 12"x12" gray with off-white and brown streaks w/black mastic	First floor, corridor Second floor, room and corridor		Remove/replace
7	Floor tile, 12"x12" black w/black mastic	Third floor, corridors		Remove/replace
8	Floor Tile, 12"x12" off-white with olive streaks w/black mastic	Third floor, rooms and corridor		Remove/replace
12	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	75 EA	Remove/replace
21	Pipe Fitting Insulation	Crawlspace		Remove/repair
17	Pipe Insulation, 12" white with metal wrap	Crawl space, and between buildings 31 and 32, and 32 and 33	10 LF	Remove/repair
23	Soil	Crawlspace	12,000 SF	Remove/repair

#### *Non-Damaged/Friable ACM:*

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

**FACILITY NO.: 32**

**SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:**

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE’s laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE, as well as a summary of materials assumed to contain asbestos or identified as ACM during previous asbestos surveys. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

**Summary of Suspect Friable ACM Bulk Sample Analysis Results**

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
1	Floor Tile, 9”x9” black w/black mastic	First floor, all rooms and corridors (under HA #3) except for restrooms, bag room, scrub room and office; second floor, all rooms and corridors (under HA #3) except for restrooms, scrub room and writing room; third floor, all rooms and corridors (under HA # 7 and 8) except for restrooms	CAPE / 2000	32-01-01 32-01-02 32-01-03	8% CHR(T), 8% CHR(M) NA NA	YES
2	Floor Tile, 9”x9” green with white streaks w/black mastic	Second floor, scrub room	CAPE 2000	32-02-01-QC 32-02-01 32-02-02 32-03-03	3%CHR (T), 18%CHR (M) 2% CHR(T), 8% CHR(M) NA NA	YES
3	Floor Tile, 12”x12” off-white with gray streaks w/black mastic	First floor, by main lobby	BAT 2000	32-3-1 32-3-2 32-3-3	7% CHR(T), 2% CHR(M)	YES
4	Floor Tile, 12”x12” green with white streaks w/black mastic	First floor, main lobby, bag room, scrub room and stairwell #1; second floor, stairwell #1	BAT 2000	32-4-01 32-4-02 32-4-03	NAD	NO

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
5	Floor Tile, 12"x12" gray with off-white and brown streaks w/black mastic	First floor, all rooms and corridors except for restrooms and office; second floor, all rooms and corridors except for restrooms and writing room	CAPE 2000 BAT 2000 BAT 2000	32-05-01 32-5-2 32-5-3	5% CHR(T), 10% CHR(M) NAD(T), 2% CHR(M) NAD(T), NA (M)	YES
6	Floor Tile, 12"x12" red w/black mastic	Second floor, corridors	BAT 2000	32-6-1 32-6-2 32-6-3	NAD(T), 2% CHR	YES.
7	Floor Tile, 12"x12" black w/black mastic	Third floor, corridors	BAT 2000 CAPE 2000 CAPE 2000	32-7-1 32-07-02-QC 32-07-02 32-07-03	5% CHR(T), 3% CHR(M) 12% CHR (T), 2% CHR (M) 10% CHR(T), <1% CHR(M) NA (T), <1% CHR(M)	YES
8	Floor Tile, 12"x12" off-white with olive streaks w/black mastic	Third floor, all rooms and corridors except for restrooms and stairwells	BAT 2000	32-8-1 32-8-2 32-8-3	5% CHR(T), 5% CHR(M)	YES
9	Ceiling Tile, 2'x4' white suspended with groove and pinholes (old)	Second floor, center corridor; third floor, center corridor	BAT 2000	32-9-1 32-9-2 32-9-3	NAD	NO
10	Ceiling Tile, 2'x4' white suspended with groove and pinholes (new)	Second floor, center corridor; third floor, center corridor	BAT 2000	32-10-1 32-10-2 32-10-3	NAD	NO
11	Ceiling Tile, 2'x4' solid white	First floor, day room	BAT 2000	32-11-1 32-11-2 32-11-3	NAD	NO
12	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	CAPE 2000	32-12-01	50% CHR	YES
13	Pipe Fitting Insulation, 3" white with canvas wrap on domestic water	All floors, in walls behind all water fixtures	BAT 2000	None	Assume to contain asbestos due to inaccessibility of material	YES
14	Window Glazing, interior	On exterior windows	CAPE 2000	32-12-01	NAD	NO
15	Roof, built-up	Roof	BAT 2000	36-15-1 36-15-2 36-15-3	NAD	NO
17	Pipe Insulation, 12" white with metal wrap	In crawl space and between buildings 31 and 32, and 32 and 33	BAT 2000	Exterior Pipe 32	Layer 1=15% AMO Layer 2=NAD	YES

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
18	Tank Insulation	In exterior mechanical room	BAT 2000	B32-S1 B32-S2 B32-S3	NAD	NO
19	Spray-applied decorative material	Hallway walls near bldg. Entrances	CAPE 2000	32-19-01 32-19-02 32-19-03	NAD NAD NAD	NO
20	Spray-applied textured ceiling material	Rooms 111-113	CAPE 2000	32-19-01 32-19-02 32-19-03	NAD NAD NAD	NO
21	Pipe Fitting Insulation	Crawlspace	CAPE 2000	32-19-01 32-19-02 32-19-03	30% AMO NA NA	YES
22	Pipe Insulation	Crawlspace	CAPE 2000	32-19-01 32-19-02 32-19-03	NAD NAD NAD	NO
23	Soil	Crawlspace	CAPE 2000	32-23-01-QC 32-19-01 32-19-02 32-19-03	NAD <1% Amosite * <1% Amosite * NAD	NO

Legend:      NAD = No Asbestos Detected      CHR = Chrysotile  
                  AMO = Amosite      (T) = Tile layer      (M) = Mastic layer

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

**FACILITY NO.: 33****DESCRIPTION: Living Quarters (Vacant)**

Building 33 is a three-level structure totaling 35,880 square feet. The building was constructed in 1959.

**PART 1 – FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in March 2000. This survey was conducted to update the existing inventory of friable ACM and to re-assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. Findings from previous ACM surveys were incorporated into this survey as appropriate. The following table provides an inventory of friable ACM identified:

**Friable ACM Inventory**

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
2	Damaged floor tile, 12"x12" off-white with gray streaks w/black mastic	First floor, west wing and corridors; second floor, throughout except for stairwells and restrooms; Third floor, throughout except for stairwells and restrooms	Misc.	16 SF	Damaged
3	Damaged floor tile, 12"x12" gray with off-white and brown streaks w/black mastic	First floor, west corner two rooms, and east wing; second floor, room across from janitor closet	Misc.		Damaged
13	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	TSI	445 EA	Damaged
14	Pipe Fitting Insulation, 3" white with canvas wrap on domestic water	All floors, in walls behind all water fixtures	TSI		Good
23	Pipe Fitting Insulation	Crawlspace	TSI		Damaged
17	Pipe insulation, 12" with metal wrap	In crawl space and between buildings 33 and 34	TSI	10 LF	Damaged

Legend:

Misc. = Miscellaneous

TSI = Thermal System Insulation

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 33

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

#### *Damaged Friable ACM*

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
2	Floor tile, 12"x12" off-white with gray streaks w/black mastic	First floor, west wing and corridors; second floor, throughout except for stairwells and restrooms; Third floor, throughout except for stairwells and restrooms	16 SF	Remove/replace
3	Floor tile, 12"x12" gray with off-white and brown streaks w/black mastic	First floor, west corner two rooms, and east wing; second floor, room across from janitor closet		Remove/replace
13	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	70 EA	Remove/replace
23	Pipe Fitting Insulation	Crawlspace		Remove/replace
17	Pipe insulation, 12" with metal wrap	In crawl space and between buildings 33 and 34	10 LF	Remove/repair/replace

#### *Non-Damaged/Friable ACM:*

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 33

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE, as well as a summary of materials assumed to contain asbestos or identified as ACM during previous asbestos surveys. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

#### Summary of Suspect Friable ACM Bulk Sample Analysis Results

##### Building 33

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
1	Floor Tile, 9"x9" black w/black mastic	All rooms and corridors throughout the building (under other floor tiles) except for restrooms and stairwells	CAPE 2000	33-01-01 33-01-02 33-01-03	5% CHR(T), 2% CHR(M) NA NA	YES
2	Floor Tile, 12"x12" off-white with gray streaks w/black mastic	First floor, west wing and corridors; second floor, throughout except for stairwells and restrooms	CAPE 2000	33-02-01 33-02-02 33-02-03	NAD 6% CHR(T), 4% CHR(M) NA	YES
3	Floor Tile, 12"x12" gray with off-white and brown streaks w/black mastic	First floor, west corner two rooms, and east wing; second floor, room across from janitor closet	CAPE 2000	33-03-01-QC 33-03-01	10% CHR (T), 17% CHR (M) 7% CHR(T), 5% CHR(M)	YES
4	Floor Tile, 12"x12" dark blue with white streaks w/black mastic	First, second and third floor corridors	BAT 2000	33-4-1 33-4-2 33-4-3	NAD (T), NAD (M)	NO
5	Floor Tile, 12"x12" brown with light and dark specs w/black mastic	Second floor, writing room	BAT 2000 CAPE 2000 CAPE 2000	33-5-1 33-05-02 33-05-03	3% CHR(T), 10% CHR(M) 8% CHR (T), NAD (M) NA	YES
6	Drywall, on walls	Throughout the building			HA 6&7 COMBINED BY CAPE DURING SURVEY	N/A
7	Joint Sealer Compound, on drywall	Throughout the building	CAPE 2000 CAPE 2000	33-7-1 33-7-2	NAD NAD	NO

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
7	Joint Sealer Compound, on drywall	Throughout the building	CAPE 2000 CAPE 2000	33-07-01 33-07-02	NAD NAD	NO
8	Floor Tile, 9"x9" gray with white streaks w/black mastic	Third floor, room adjacent to stairwell #1	BAT 2000	33-8-1 33-8-2 33-8-3	NAD (T) NAD (M)	NO
9	Floor Tile, 9"x9" brown with white streaks w/black mastic	Third floor, room adjacent to stairwell #1	BAT 2000	33-9-1 33-9-2 33-9-3	NAD (T), NAD (M)	NO
10	Floor Tile, 9"x9" red w/black mastic	Third floor, room adjacent to stairwell #1	BAT 2000	32-6-1 32-6-2 32-6-3	NAD(T), 10% CHR(M); HA NOT IDENTIFIED DURING CAPE SURVEY	YES
11	Spray-Applied Textured Ceiling Finish	All rooms throughout the building except for restrooms and stairwells	BAT 2000	33-11-1 33-11-2 33-11-3	NAD	NO
12	Window Glazing, interior	On all interior windows	CAPE 2000	33-12-01	NAD	NO
13	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	BAT 2000	33-3-1 33-3-2 33-3-3	20% CHR, 20% AMO	YES
14	Pipe Fitting Insulation, 3" white with canvas wrap on domestic water	All floors, in walls behind all water fixtures	BAT 2000		ASSUMED	YES
15	Roof-built-up	Roof	BAT 2000	36-15-1 36-15-2 36-15-3	NAD	NO
17	Pipe Insulation, 12" with metal wrap	In crawl space and between buildings 33 and 34	BAT 2000	Exterior Pipe-32	Layer 1 = 15% AMO Layer 2 = NAD	YES
18	Tank Insulation	In exterior mechanical room	BAT 2000	B33-S1 B33-S2 B33-S3	NAD	NO
20	Mastic on Sink, black	Second floor, writing room	BAT 2000 BAT 2000 BAT 2000 CAPE 2000	35-24-1 35-24-2 35-24-3 33-20-1	NAD  NAD	NO
21	Spray-applied decorative material	Hallway walls near bldg. Entrances	CAPE 2000	33-01-01 33-01-01 33-01-01	NAD	NO
22	Soil	Crawlspace	CAPE 2000	33-22-01 33-22-02 33-22-03	NAD NAD NAD	NO

HA #	Material Description	Approximate location	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
23	Pipe Fitting Insulation	Crawlspace	CAPE 2000	33-23-01 33-23-02 33-23-03	NAD 4% CHR NA	Yes
24	Pipe Insulation	Crawlspace	CAPE 2000	33-24-01 33-24-02 33-24-03	NAD NAD NAD	NO

Legend: NA = Sample Not Analyzed NAD = No Asbestos Detected CHR = Chrysotile  
 AMO = Amosite (T) = Tile layer (M) = Mastic layer

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

**FACILITY NO.: 34****DESCRIPTION: Living Quarters (Vacant)**

Building 34 is a three-level structure totaling 35,880 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in April 2000. This survey was conducted to update the existing inventory of friable ACM and to re-assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. Findings from previous ACM surveys were incorporated into this survey as appropriate. The following table provides an inventory of friable ACM identified:

**Friable ACM Inventory**

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damage floor tile, 9"x9" black w/black mastic	First floor, corridor	Misc.	503 SF	Damaged
2	Damage floor tile, 9"x9" red	First floor stairwell #1	Misc.		Damaged
4	Damage floor tile, 12"x12" dark blue with white streaks w/black mastic	First floor, corridor	Misc.		Damaged
5	Damage floor tile, 12"x12" yellow w/black mastic	First floor, two east wing rooms	Misc.		Damaged
7	Damage floor tile, 12"x12" black w/black mastic	Third floor, corridor	Misc.		Damaged
8	Damage floor tile, 12"x12" green with white streaks w/black mastic	First floor, room east of scrub room (over HA #1)	Misc.		Damaged
20	Pipe Fitting Insulation, 3" white with canvas wrap on domestic water	All floors, in walls behind all water fixtures	Misc.	275 EA	Damaged
29	Pipe Fitting Insulation	Crawlspace	TSI		Good
22	Pipe insulation, 12" with metal wrap	Exterior	Misc.	110 LF	Damaged
30	Pipe Insulation	Crawlspace	TSI		Damaged
23	Window Glazing, interior	Interior of windows	Misc.	1,500 LF	Damaged
27	Cove base and mastic, black	First floor, laundry room	Misc.	5 SF	Good
28	Soil	Crawlspace	MISC.	16,000 SF	Damaged

**Legend:**

TSI = Thermal System Insulation

Misc. = Miscellaneous

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 34

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DOD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

#### *Damaged Friable ACM*

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
1	Floor tile, 9"x9" black w/black mastic	First floor, corridor;	503 SF	Remove/replace
2	Floor tile, 9"x9" red	First floor stairwell #1		Remove/replace
4	Floor tile, 12"x12" dark blue with white streaks w/black mastic	First floor, corridor		Remove/replace
5	Floor tile, 12"x12" yellow w/black mastic	First floor, two east wing rooms		Remove/replace
7	Floor tile, 12"x12" black w/black mastic	Third floor, corridor		Remove/replace
8	Floor tile, 12"x12" green with white streaks w/black mastic	First floor, room east of scrub room		Remove/replace
22	Pipe insulation, 12" with metal wrap	Exterior	110 LF	Remove/repair/replace
30	Pipe Insulation	Crawlspace		Remove/repair/replace
23	Window Glazing, interior	Interior of windows	1,500 SF	Remove/repair/replace
27	Cove base and mastic, black	First floor , laundry room	5 SF	Remove/repair/replace
28	Soil	Crawlspace	16,000 SF	Remove/repair/replace
29	Pipe Fitting Insulation	Crawlspace	50 EA	Remove/repair/replace

#### *Non-Damaged/Friable ACM:*

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 34

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE, as well as a summary of materials assumed to contain asbestos or identified as ACM during previous asbestos surveys. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

**Summary of Suspect Friable ACM Bulk Sample Analysis Results**

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
1	Floor Tile, 9"x9" black w/black mastic	Throughout the building, under HA # 3, 8, 9, and 10	BAT 2000	31-5-1	7% CHR (T), 2% CHR (M)	YES
2	Floor Tile, 9"x9" red ( No mastic present in sample)	First floor stairwell #1	CAPE 2000	34-2-01 34-2-02 34-2-03	2% CHR NAD NAD	YES
3	Floor Tile, 12"x12" off-white with beige streaks w/black mastic	First floor, rooms and corridors; second floor, scrub room and one west wing room; third floor, rooms and corridors	BAT 2000	34-3-1 34-3-2	5% CHR (T), 5% CHR (M)	YES
4	Floor Tile, 12"x12" dark blue with white streaks w/black mastic	First floor, corridor; second floor, scrub room and west wing room	BAT 2000 CAPE 2000 CAPE 2000	34-4-1 34-04-02 34-04-03	2%CHR (T), 10% CHR (M) NAD (T), 3% CHR (M) 4% CHR (T), 2% CHR (M)	YES
5	Floor Tile, 12"x12" yellow w/black mastic	First floor, two east wing rooms	BAT 2000 CAPE 2000 CAPE 2000	34-5-1 34-05-02 34-05-03	2% CHR (T), 10% CHR(M) 6% CHRT (T), 3% CHR (M) NA	YES
6	Floor Tile, 12"x12" red w/black mastic	Second floor, corridor	BAT 2000	34-6-1 34-6-2 34-6-3	NAD (T), 5% CHR (M)	YES
7	Floor Tile, 12"x12" black w/black mastic	First floor, bag room; third floor, corridor	BAT 2000	32-8-1 32-8-2 32-8-3	5% CHR (T), 3% CHR (M)	YES
8	Floor Tile, 12"x12" green with white streaks w/black mastic	First floor, room east of scrub room	BAT 2000 BAT 2000 CAPE 2000	34-8-1 34-8-2 34-08-03	5% CHR (T), 5% CHR (M)  3% CHR (T), NAD (M)	YES
9	Floor Tile, 12"x12" off-white with white streaks w/black mastic	Second floor, rooms and corridors (over HA #1)	BAT 2000	31-2-1	10% CHR (T), 2% CHR (M)	YES

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
10	Floor Tile, 12"x12" beige with brown streaks w/black mastic	Second and third floors, janitor closet	BAT 2000	34-10-1 34-10-2 34-10-3	NAD (T), NAD (M)	NO
11	Floor Tile, 12"x12" off-white w/black mastic	First floor, day room	BAT 2000	34-11-1 34-11-2 34-11-3	NAD (T), NAD (M)	NO
12	Sheet Flooring, brown with dark brown patter	First floor, office	BAT 2000	34-12-1 34-12-2 34-12-3	NAD (T), 10% CHR (M)	YES
13	Drywall, on walls	Throughout the building	BAT 2000	31-10-1 31-10-2 31-10-3	CAPE sampled drywall and joint compound as one HA	NO
14	Joint Sealer Compound, on drywall	Throughout the building	CAPE 2000 CAPE 2000 CAPE 2000	31-14-01 31-14-02 31-14-03	NAD NAD NAD	NO
15	Mastic on Sink, black	Second floor, writing room	CAPE 2000	34-15-1-QC 34-15-01	NAD NAD	NO
16	Spray-Applied Ceiling Finish	First floor, office	CAPE 2000	34-16-1-QC 34-16-01 34-16-02 34-16-03	NAD NAD NAD NAD	NO
17	Ceiling Tile, 2'x4' white suspended groove and pinhole (new)	Third floor, writing room	BAT 2000	31-7-1 31-7-2 31-7-3	NAD	NO
18	Ceiling Tile, 2'x2' white suspended groove and pinhole (old)	All floor corridors	BAT 2000	31-6-1 341-6-2 31-6-3	NAD	NO
19	Ceiling Tile, 2'x2' white suspended groove and pinhole (new)	All floor corridors	BAT 2000	34-19-1 34-19-2 34-19-3	NAD	NO

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
21	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping to all wall mounted radiators	CAPE 2000	34-21-01 34-21-02 34-21-03	NAD NAD NAD	NO
20	Pipe Fitting Insulation, 3" white with canvas wrap on domestic water	All floors, in walls behind all water fixtures	BAT 2000	ASSUMED	ASSUMED	YES
22	Pipe insulation, 12" with metal wrap	Exterior	BAT 2000	Exterior Pipe-32	Layer 1=15% AMO Layer 2=NAD	YES
23	Window Glazing, interior	Interior of windows	CAPE 2000	34-23-01	2% CHR	YES
24	Tank Insulation		BAT 2000	B34-S1 B34-S2 B34-S3	NAD	NO
25	Roof, built-up	Roof	BAT 2000	36-15-1 36-15-2 36-15-3	NAD	NO
26	Spray-applied decorative material	Hallway walls near bldg. Entrances	CAPE 2000	34-26-1-QC 34-26-01 34-26-02 34-26-03	NAD NAD NAD NAD	NO
27	Cove base and mastic, black	First Floor, Laundry/Storage Room/	CAPE 2000	34-27-01 34-27-02 34-27-03	4% CHR (T), 7% CHR (M) NA NA	YES
28	Soil	Crawlspace	CAPE 2000	34-28-01 34-28-02 34-28-03	3% CHR 5% AMO 3% CHR	YES
29	Pipe Fitting Insulation	Crawlspace	CAPE 2000	34-29-01 34-29-02 34-29-03	30% AMO NA NA	YES
30	Pipe Insulation	Crawlspace	CAPE 2000	34-30-1-QC 34-30-01 34-30-02 34-30-03	3% CHR NAD 5% CHR NA	YES

**Legend:** NAD = No Asbestos Detected      CHR = Chrysotile  
 AMO = Amosite      (T) = Tile layer      (M) = Mastic layer

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

**FACILITY NO.: 35****DESCRIPTION: Living Quarters (Vacant)**

Building 35 is a three-level structure totaling 35,880 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in April 2000. This survey was conducted to update the existing inventory of friable ACM and to re-assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. Findings from previous ACM surveys were incorporated into this survey as appropriate. The following table provides an inventory of friable ACM identified:

**Friable ACM Inventory**

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
4	Damaged floor Tile, 12"x12" off-white with beige and brown speckles w/black mastic	Third floor, rooms	Misc.	6,004 SF	Damaged
6	Damaged floor tile, 12"x12" off-white with beige streaks w/black mastic	Second floor, corridor	Misc.		Damaged
7	Damaged floor Tile, 12"x12" off-white with beige and brown streaks w/black mastic	First floor, east corridor	Misc.		Damaged
17	Pipe Fitting Insulation, 3" with canvas wrap on domestic water	All floors, in walls behind all water fixtures	TSI	430 EA	Good
18	Pipe Fitting Insulation, 3" with canvas wrap on steam	Piping to all wall mounted radiators	TSI		Damaged
26	Pipe Fitting Insulation	Crawlspace	TSI		Damaged
22	Pipe Insulation, 12" with metal wrap	In crawl space and between buildings 35 and 36	TSI	1,420 LF	Damaged
28	Pipe Insulation	Crawlspace	TSI		Damaged
27	Soil	Crawlspace	Misc.	12,000 SF	Damaged

Legend: Misc. = Miscellaneous TSI = Thermal System Insulation

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 35

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

#### *Damaged Friable ACM*

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
4	Floor Tile, 12"x12" off-white with beige and brown speckles w/black mastic	Third floor, rooms	6,004 SF	Remove/replace
6	Floor tile, 12"x12" off-white with beige streaks w/black mastic	Second floor, corridor		Remove/replace
7	Floor Tile, 12"x12" off-white with beige and brown streaks w/black mastic	First floor, east corridor		Remove/replace
18	Pipe Fitting Insulation, 3" with canvas wrap on steam	Piping to all wall mounted radiators	55 EA	Remove/repair/replace
26	Pipe Fitting Insulation	Crawlspace		Isolate Area/remove
22	Pipe Insulation, 12" with metal wrap	In crawl space and between buildings 35 and 36	1,420 LF	Remove/repair/replace
28	Pipe Insulation	Crawlspace		Isolate Area/remove
27	Soil	Crawlspace	12,000 SF	Isolate Area/remove

#### *Non-Damaged/Friable ACM:*

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 35

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE, as well as a summary of materials assumed to contain asbestos or identified as ACM during previous asbestos surveys. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

**Summary of Suspect Friable ACM Bulk Sample Analysis Results**

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
1	Floor Tile, 9"x9" black w/black mastic	Throughout the building, below HA # 2, 3, 4, 6, and 7	BAT 2000	31-5-1	7% CHR (T), 2% CHR (M)	YES
2	Floor Tile, 12"x12" off-white with gray and beige speckles w/black mastic	Third floor, corridor	BAT 2000	32-2-1 32-2-2 32-2-3	NAD (T), NAD (M)	NO
3	Floor Tile, 12"x12" blue with white streaks w/black mastic	Third floor, corridor and janitor closet	BAT 2000	33-4-1 33-4-2 33-4-3	NAD (T), NAD (M)	NO
4	Floor Tile, 12"x12" off-white with beige and brown speckles w/black mastic	Third floor, rooms	BAT 2000	33-5-1	3% CHR (T), 10% CHR (M)	YES
5	Floor Tile, 12"x12" aqua with green streaks w/brown mastic	First floor, day room	BAT 2000	35-5-1 35-5-2 35-5-3	NAD (T), NAD (M)	NO
6	Floor Tile, 12"x12" off-white with beige streaks w/black mastic	First floor, main lobby and office; second floor, all rooms except restrooms and stairwells	BAT 2000 CAPE 2000 CAPE 2000 CAPE 2000	31-2-1 35-06-01 35-06-02 35-06-03	10% CHR (T), 2% CHR (M) 5% CHR (T), NAD (M) NA NA	YES
7	Floor Tile, 12"x12" off-white with beige and brown streaks w/black mastic	First floor, east and west wing rooms, corridor and day room	BAT 2000	34-3-1 34-3-2	5% CHR (T), 5% CHR (M)	YES
8	Floor Tile, 12"x12" beige with brown speckles w/black mastic	First floor, janitor closet	BAT 2000	34-10-1 34-10-2 34-10-3	NAD (T), NAD (M)	NO
9	Floor Tile, 12"x12" red with w/black mastic	Second floor, janitor closet	BAT 2000	32-6-1 32-6-2 32-6-3	NAD (T), 3% CHR (M)	YES
10	Sheet Flooring, yellow and brown w/black mastic	First floor, day room	BAT 2000	35-10-1 35-10-2 35-10-3	NAD	NO

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
11	Drywall, on walls	Throughout the building	BAT 2000	31-10-1 31-10-2 31-10-3	NAD	NO
12	Joint Sealer Compound, on drywall	Throughout the building	CAPE 2000	35-12-1-QC 35-12-01 35-12-02 35-12-03	NAD NAD NAD NAD	NO
13	Ceiling Tile, 2'x4' white suspended groove and pinhole (old)	First floor, day room	BAT 2000	31-6-1 31-6-2 31-6-3	NAD	NO
14	Ceiling Tile, 2'x4' white suspended groove and pinhole (new)	First floor, day room	BAT 2000	31-7-1 31-7-2 31-7-3	NAD	NO
15	Spray-Applied Textured Ceiling Finish	Third floor, restrooms	BAT 2000	33-11-1 33-11-2 33-11-3	NAD	NO
17	Pipe Fitting Insulation, 3" with canvas wrap on domestic water	All floors, in walls behind all water fixtures	BAT 2000	ASSUMED	ASSUMED	YES
18	Pipe Fitting Insulation, 3" with canvas wrap on steam	Piping to all wall mounted radiators	BAT 2000	33-3-1 33-3-2 33-3-3	20% CHR, 20% AMO	YES
19	Window Glazing, interior	All interior windows	BAT 2000	36-4-1 36-4-2 36-4-3	NAD	NO
20	Roofing, built-up	Roof	BAT 2000	36-15-1 36-15-2 36-15-3	NAD	NO
22	Pipe Insulation, 12" with metal wrap	In crawl space and between buildings 35 and 36	BAT 2000	Exterior Pipe-32	Layer 1=15% AMO Layer 2=NAD	YES
23	Tank Insulation	In exterior mechanical room	BAT 2000	B35-S1 B35-S2 B35-S3	NAD	NO

Legend: NAD = No Asbestos Detected CHR = Chrysotile AMO = Amosite (T) = Tile layer (M) = Mastic layer

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
23	Tank Insulation	In exterior mechanical room	BAT 2000	B35-S1 B35-S2 B35-S3	NAD	NO
24	Mastic on sink, black	Second Floor, Kitchen	BAT 2000	35-24-1 35-24-2 35-24-3	NAD	NO
25	Window Glazing	Interior	CAPE 2000	35-25-01	<1% CHR *	NO
26	Pipe Fitting Insulation	Crawlspace	CAPE 2000	35-26-1-QC 35-26-01 35-26-02 35-26-03	10% CHR 20% AMO NA NA	YES
27	Soil	Crawlspace	CAPE 2000	35-17-01 35-17-02 35-17-03	4% AMO 3% CHR NAD	YES
28	Pipe Insulation	Crawlspace	CAPE 2000	35-28-01 35-28-02 35-28-03	8% CHR NA NA	YES

Legend:      NAD = No Asbestos Detected      CHR = Chrysotile      AMO = Amosite  
                  (T) = Tile layer                    (M) = Mastic layer

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

**FACILITY NO.: 36****DESCRIPTION: Living Quarters (Vacant)**

Building 36 is a three-level structure totaling 35,880 square feet. The building was constructed in 1959.

**FRIABLE ACM INVENTORY:**

CAPE conducted a survey and inventory of friable ACM at this facility in April 2000. This survey was conducted to update the existing inventory of friable ACM and to re-assess the condition of ACM (homogenous areas) for compliance with the DoD Policy on Asbestos at Base Realignment and Closure (BRAC) Properties. Findings from previous ACM surveys were incorporated into this survey as appropriate. The following table provides an inventory of friable ACM identified:

**Friable ACM Inventory**

HA#	Material Description	Location of Friable Material	Material Type	Quantity of Friable Material	Damage Assessment
1	Damaged floor tile, 9"x9" black w/black mastic	First floor, second floor, third floor	Misc.	21 SF	Damaged
3	Damaged floor Tile, 12"x12" off-white with brown streaks w/black mastic	Second floor, throughout	Misc.		Damaged
4	Damaged floor Tile, 12"x12" beige with gray speckles w/black mastic	First floor, main lobby third floor, throughout	Misc.		Damaged
5	Damaged floor tile, 12"x12" lime green with white streaks w/black mastic	First floor, rooms and corridors	Misc.		Damaged
13	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	TSI		725 EA
14	Pipe Fitting Insulation, 3" with canvas wrap on domestic water	All floors, in walls behind all water fixtures	TSI	Potential Damage	
20	Pipe Fitting Insulation	Crawlspace	TSI	Potential Damage	
17	Pipe Insulation, 12" with metal wrap	Between Buildings 36 and 37	TSI	1,560 LF	Damaged
22	Pipe Insulation, 12" with metal wrap	Crawlspace	TSI		Potential Damage
19	Soil	Crawlspace	Misc.	12,000 SF	Damaged

Legend:

Misc. = Miscellaneous

TSI = Thermal System Insulation

*In accordance with federal regulations, non-friable suspect ACM which were not inventoried or sampled as part of the scope of work for this project (as well as any "assumed" or "presumed" asbestos-containing materials) should be treated as asbestos-containing material and properly managed until testing is performed to demonstrate no asbestos is present.*

## FACILITY NO.: 36

### DAMAGED FRIABLE ACM:

The following table provides a site-specific update of damaged and/or significantly damaged friable ACM. In accordance with DoD policy on asbestos at BRAC properties, CAPE recommends the Navy retain a licensed asbestos consultant/abatement contractor to complete the recommended abatement response actions outlined in the table below.

#### *Damaged Friable ACM*

HA#	Material Description	Damage Location	Damage Quantity	Abatement Response Action
1	Floor tile, 9"x9" black w/black mastic	First floor, Second Floor, Third Floor	21 SF	Remove/replace
3	Floor Tile, 12"x12" off-white with brown streaks w/black mastic	Second floor,		Remove/replace
4	Floor Tile, 12"x12" beige with gray speckles w/black mastic	First floor, main lobby Third floor, throughout		Remove/replace
5	Floor tile, 12"x12" lime green with white streaks w/black mastic	First floor, rooms and corridors		Remove/replace
13	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	22 EA	Remove/repair/replace
20	Pipe Fitting Insulation	Crawlspace	50 EA	Isolate area/remove
17	Pipe Insulation, 12" with metal wrap	Between Buildings 36 and 37	10 LF	Isolate area/remove
22	Pipe Insulation, 12" with metal wrap	Crawlspace	20 LF	Isolate area/remove
19	Soil	Crawlspace	12,000 SF	Isolate area/remove

#### *Non-Damaged/Friable ACM:*

*DoD policy allows transfer of properties "as is" if they contain ACM which is not in damaged/friable condition. Therefore, any friable ACM identified in this report as being in good condition, and which remain in good condition, is not required to be remediated prior to transfer. All friable ACM in good condition should be properly managed until the facility is transferred through the BRAC process.*

## FACILITY NO.: 36

### SUSPECT FRIABLE ACM BULK SAMPLE ANALYSIS RESULTS:

Samples collected by CAPE were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Method EPA/600/R-93/116 of July 1993. CAPE's laboratory in Atlanta, Georgia (NVLAP Lab Code 102111), served as the primary analytical laboratory. The table below provides a summary of analysis results for bulk samples collected by CAPE, as well as a summary of materials assumed to contain asbestos or identified as ACM during previous asbestos surveys. In accordance with federal and state regulations, a suspect material is considered to be ACM if it is determined to contain more than 1% asbestos by PLM (or is assumed to contain more than 1% asbestos).

Summary of Suspect Friable ACM Bulk Sample Analysis Results

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
1	Floor Tile, 9"x9" black w/black mastic	First floor, throughout (under HA #4 and 5; second floor, throughout (under HA #3)	BAT 2000 CAPE 2000 CAPE 2000 CAPE 2000	31-5-1 36-1-01-QC 36-01-01 36-01-02 36-01-03	7% CHR (T), 2% CHR (M) 5% CHR (T), NAD (M) 7% CHR (T), 2% CHR (M) NA NA	YES
2	Floor Tile, 9"x9" dark blue with white streaks w/black mastic	First floor, day room	BAT 2000	32-2-1 32-2-2 32-2-3	NAD	NO
3	Floor Tile, 12"x12" off-white with brown streaks w/black mastic	Second floor, throughout	BAT 2000	31-2-1	10% CHR (T), 2% CHR (M)	YES
4	Floor Tile, 12"x12" beige with gray speckles w/black mastic	First floor, main lobby; third floor, throughout	BAT 2000	36-4-1	3% CHR (T), 5% CHR (M)	YES
5	Floor Tile, 12"x12" lime green with white streaks w/black mastic	First floor, rooms and corridors	BAT 2000 CAPE 2000 CAPE 2000	35-5-1 35-05-02 35-05-03	5%CHR (T), 10%CHR (M) 8% CHR (T), 2% CHR (M) NA	YES
6	Drywall, on walls	Throughout the building	BAT 2000	31-10-1 31-10-2 31-10-3	NAD	NO
7	Joint Sealer Compound, on drywall	Throughout the building	BAT 2000	31-11-1 31-11-2 31-11-3	NAD	NO
8	Ceiling Tile, 2'x2' white suspended groove and pinhole (new)	Second floor, center corridor	BAT 2000	34-19-1 34-19-2 34-19-3	NAD	NO

HA #	Description of Suspect ACM	Location of Suspect ACM	Samples By/ Year	Sample I.D.	% Asbestos	ACM Yes/No
9	Ceiling Tile, 2'x4' white suspended groove and pinhole (old)	Third floor, center corridor	BAT 2000	31-6-1 31-6-2 31-6-3	NAD	NO
10	Ceiling Tile, 2'x4' white suspended groove and pinhole (new)	Third floor, center corridor	BAT 2000	31-7-1 31-7-2 31-7-3	NAD	NO
11	Mastic on Sink, black	Second floor, wiring room	BAT 2000	36-3-1 36-3-2 36-3-3	NAD	NO
12	Window Glazing, interior	All interior windows	CAPE 2000	36-04-01 36-04-02 36-04-03	NAD	NO
13	Pipe Fitting Insulation, 3" white with canvas wrap on steam	Piping on all wall mounted radiators	CAPE 2000	36-13-01 36-13-02 36-13-03	NAD NAD NAD	NOO
14	Pipe Fitting Insulation, 3" with canvas wrap on domestic water	All floors, in walls behind all water fixtures	BAT 2000	ASSUMED	ASSUMED	YES
15	Roofing, built-up	Roof	BAT 2000	36-15-1 36-15-2 36-15-3	NAD	NO
17	Pipe Insulation, 12" with metal wrap	In crawl space and between Buildings 36 and 37	BAT 2000	Exterior Pipe-32	Layer 1=15% AMO Layer 2=NAD	YES
18	Tank Insulation	In exterior mechanical room	BAT 2000	36-S1 36-S2 36-S3	NAD	NO
19	Soil	Crawlspace	CAPE 2000	36-19-01 36-19-02 36-19-03	NAD 5% CHR 5% CHR	YES
20	Pipe Fitting Insulation	Crawlspace	CAPE 2000	36-20-01 36-20-02 36-20-03	30% AMO NA NA	YES
21	Pipe Insulation	Crawlspace	CAPE 2000	36-21-01 36-21-02 36-21-03	NAD NAD NAD	NO
22	Pipe Insulation, 12" with metal wrap	Crawlspace	CAPE 2000	36-22-01	4% CHR	YES

**Legend:** NAD = No Asbestos Detected CHR = Chrysotile  
 AMO = Amosite (T) = Tile layer (M) = Mastic layer

*EPA's PLM test method requires individual strata layers within a multi-layered material to be analyzed separately and separate analysis results to be reported for each layer. Multi-layered materials are, therefore, considered to be ACM if one or more layer(s) contain greater than 1% asbestos. Specific examples of multi-layered materials include plaster and stucco systems, and materials "added" to wallboard or other base materials (e.g., sprayed-on materials, skim coats, paints, ceiling or wall texture, etc.).*

# **Laboratory Bulk Sample Analysis Report**

**CHAIN OF CUSTODY**

LABORATORY NAME: CAPE

CLIENT NAME: Southdiv PROJECT MANAGER: Juan Hernandez

PROJECT NAME: Naval Shipyard Charleston PROJECT NUMBER: 00009.008.000

ANALYSIS REQUESTED: PLM  OTHER:

TURNAROUND TIME SAME DAY NEXT DAY 3 DAYS 5 DAYS NEED BY:

REQUESTED:

INSTRUCTIONS: ANALYZE ALL  STOP POSITIVE

SAMPLE ID		SAMPLE ID	
1	<u>NSYC-31-01-01</u>	16	<u>NSYC-31-25-02</u>
2	<u>-01-02</u>	17	<u>-25-03</u>
3	<u>-01-03</u>	18	<u>-26-01</u>
4	<u>-02-02</u>	19	<u>-26-02</u>
5	<u>-02-03</u>	20	<u>-26-03</u>
6	<u>-04-01</u>	21	<u>-27-01</u>
7	<u>-04-02</u>	22	<u>-27-02</u>
8	<u>-04-03</u>	23	<u>NSYC-31-27-03</u>
	<u>-08-01</u>	24	
	<u>-18-02</u>	25	
11	<u>-18-03</u>	26	
12	<u>-22-01</u>	27	
13	<u>-22-02</u>	28	
14	<u>-22-03</u>	29	
15	<u>NSYC-31-25-01</u>	30	

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: <u>[Signature]</u>	RECEIVED BY: <u>[Signature]</u>
DATE: <u>01MAY00</u> TIME: <u>15:14</u>	DATE: <u>5/1/00</u> TIME: <u>15:14</u>
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

CHAIN OF CUSTODY

LABORATORY NAME: CAPE

CLIENT NAME: Southdiv PROJECT MANAGER: Juan Hernandez

PROJECT NAME: Naval Shipyard Charleston PROJECT NUMBER: 00009.008.006

ANALYSIS REQUESTED: PLM  OTHER: \_\_\_\_\_

TURNAROUND TIME SAME DAY  NEXT DAY  3 DAYS  5 DAYS  NEED BY:

REQUESTED: \_\_\_\_\_

INSTRUCTIONS: ANALYZE ALL  STOP POSITIVE

SAMPLE ID		SAMPLE ID	
1	NSYC-32-01-01	16	NSYC-32-20-01
2	01-02	17	20-02
3	01-03	18	20-03
4	02-01	19	21-01
5	02-02	20	21-02
6	02-03	21	21-03
7	05-02	22	22-01
8	05-03	23	22-02
9	07-02	24	22-03
	3	25	23-01
11	12-0	26	23-02
12	14-01	27	NSYC-32-23-03
13	19-01	28	
14	19-02	29	
15	NSYC-32-19-03	30	

SPECIAL INSTRUCTIONS:

\_\_\_\_\_

\_\_\_\_\_

RELINQUISHED BY: <u>[Signature]</u>	RECEIVED BY: <u>[Signature]</u>
DATE: <u>01MAY00</u> TIME: <u>15:14</u>	DATE: <u>5/1/00</u> TIME: <u>15:14</u>
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**CHAIN OF CUSTODY**

LABORATORY NAME: <u>CAPE</u>			
CLIENT NAME: <u>Southdiv</u>		PROJECT MANAGER: <u>Juan Hernandez</u>	
PROJECT NAME: <u>Naval Shipyard Charleston</u>		PROJECT NUMBER: <u>00019-008-006</u>	
ANALYSIS REQUESTED: <u>PLM</u> <input checked="" type="checkbox"/>		OTHER: _____	
TURNAROUND TIME REQUESTED:	SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>	3 DAYS <input type="checkbox"/>
			5 DAYS <input checked="" type="checkbox"/>
INSTRUCTIONS: <u>ANALYZE ALL</u> <input type="checkbox"/>		<u>STOP POSITIVE</u> <input checked="" type="checkbox"/>	
SAMPLE ID		SAMPLE ID	
1	<u>NSYC-33-01-01</u>	16	<u>NSYC-33-22-03</u>
2	<u>01-02</u>	17	<u>23-01</u>
3	<u>01-03</u>	18	<u>23-02</u>
4	<u>02-01</u>	19	<u>23-03</u>
5	<u>02-02</u>	20	<u>24-01</u>
6	<u>02-03</u>	21	<u>24-02</u>
7	<u>03-01</u>	22	<u>NSYC-33-24-03</u>
8	<u>05-02</u>	23	
9	<u>05-03</u>	24	
	<u>07-01</u>	25	
11	<u>07-02</u>	26	
12	<u>17-01</u>	27	
13	<u>20-01</u>	28	
14	<u>22-01</u>	29	
15	<u>NSYC-33-22-02</u>	30	
SPECIAL INSTRUCTIONS:			
RELINQUISHED BY: <u>Chen D. Brown</u>		RECEIVED BY: <u>[Signature]</u>	
DATE: <u>01 MAY 00</u>	TIME: <u>15:14</u>	DATE: <u>5/1/00</u>	TIME: <u>15:14</u>
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

CHAIN OF CUSTODY

LABORATORY NAME: <u>CAPE</u>	
CLIENT NAME: <u>Southdiv</u>	PROJECT MANAGER: <u>Juan Hernandez</u>
PROJECT NAME: <u>Naval Shipyard Charleston</u>	PROJECT NUMBER: <u>00019-008-006</u>
ANALYSIS REQUESTED: <u>PLM</u> <input checked="" type="checkbox"/>	OTHER: <input type="checkbox"/>
TURNAROUND TIME REQUESTED: <input type="checkbox"/> SAME DAY <input type="checkbox"/> NEXT DAY <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/>	NEED BY: <input type="checkbox"/>
INSTRUCTIONS: <input type="checkbox"/> ANALYZE ALL <input type="checkbox"/> STOP POSITIVE <input checked="" type="checkbox"/>	
SAMPLE ID	SAMPLE ID
1 <u>NSYC-34-02-01</u>	16 <u>NSYC-34-21-01</u>
2 <u>02-02</u>	17 <u>21-02</u>
3 <u>02-03</u>	18 <u>21-03</u>
4 <u>04-02</u>	19 <u>23-01</u>
5 <u>04-03</u>	20 <u>26-01</u>
6 <u>05-02</u>	21 <u>26-02</u>
7 <u>05-03</u>	22 <u>26-03</u>
8 <u>08-03</u>	23 <u>27-01</u>
9 <u>14-01</u>	24 <u>27-02</u>
<u>14-02</u>	25 <u>NSYC-34-27-03</u>
11 <u>14-03</u>	26 <u>28-01</u>
12 <u>15-01</u>	27 <u>28-02</u>
13 <u>16-01</u>	28 <u>28-03</u>
14 <u>16-02</u>	29 <u>29-01</u>
15 <u>NSYC-34-16-03</u>	30 <u>29-02</u>
SPECIAL INSTRUCTIONS:	
RELINQUISHED BY: <u>[Signature]</u>	RECEIVED BY: <u>[Signature]</u>
DATE: <u>01/MAY/00</u> TIME: <u>15:14</u>	DATE: <u>5/1/00</u> TIME: <u>15:14</u>
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

CHAIN OF CUSTODY

LABORATORY NAME: <u>CAPE</u>			
CLIENT NAME: <u>Southdiv</u>		PROJECT MANAGER: <u>Juan Hernandez</u>	
PROJECT NAME: <u>Naval Shipyard Charleston</u>		PROJECT NUMBER: <u>00069.008.006</u>	
ANALYSIS REQUESTED: PLM <input checked="" type="checkbox"/>		OTHER:	
TURNAROUND TIME REQUESTED:	SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>	3 DAYS <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> NEED BY:
INSTRUCTIONS: ANALYZE ALL <input type="checkbox"/>		STOP POSITIVE <input checked="" type="checkbox"/>	
SAMPLE ID		SAMPLE ID	
1 <u>NSYC-34-29-03</u>		16	
2 <u>30-01</u>		17	
3 <u>30-02</u>		18	
4 <u>30-03</u>		19	
5		20	
6		21	
7		22	
8		23	
9		24	
		25	
11		26	
12		27	
13		28	
14		29	
15		30	
SPECIAL INSTRUCTIONS:			
RELINQUISHED BY: <u>[Signature]</u>		RECEIVED BY: <u>[Signature]</u>	
DATE: <u>01MAY00</u>	TIME: <u>15:16</u>	DATE: <u>5/1/00</u>	TIME: <u>15:16</u>
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

CHAIN OF CUSTODY

LABORATORY NAME: <u>CAPE</u>			
CLIENT NAME: <u>Southdiv</u>		PROJECT MANAGER: <u>JUAN HERNANDEZ</u>	
PROJECT NAME: <u>Naval Shipyard Charleston</u>		PROJECT NUMBER: <u>00019-008-006</u>	
ANALYSIS REQUESTED: PLM <input checked="" type="checkbox"/>		OTHER:	
TURNAROUND TIME REQUESTED:	SAME DAY <input type="checkbox"/>	NEXT DAY <input type="checkbox"/>	3 DAYS <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> NEED BY:
INSTRUCTIONS:		ANALYZE ALL <input type="checkbox"/>	STOP POSITIVE <input checked="" type="checkbox"/>
SAMPLE ID		SAMPLE ID	
1	<u>NSYC-35-06-01</u>	16	<u>NSYC-35-29-03</u>
2	<u>06-02</u>	17	
3	<u>06-03</u>	18	
4	<u>12-01</u>	19	
5	<u>12-02</u>	20	
6	<u>12-03</u>	21	
7	<u>25-01</u>	22	
8	<u>26-01</u>	23	
9	<u>26-02</u>	24	
	<u>26-03</u>	25	
11	<u>27-01</u>	26	
12	<u>27-02</u>	27	
13	<u>27-03</u>	28	
14	<u>28-01</u>	29	
15	<u>NSYC-35-28-02</u>	30	
SPECIAL INSTRUCTIONS:			
RELINQUISHED BY: <u>Chas B. Pava</u>		RECEIVED BY: <u>[Signature]</u>	
DATE: <u>01MAY00</u>	TIME: <u>15:16</u>	DATE: <u>5/1/00</u>	TIME: <u>15:10</u>
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

CHAIN OF CUSTODY

LABORATORY NAME: CAPE

CLIENT NAME: Southdiv PROJECT MANAGER: Juan Hernandez

PROJECT NAME: Naval Shipyard Charleston PROJECT NUMBER: 00019-008-006

ANALYSIS REQUESTED: PLM  OTHER:

TURNAROUND TIME SAME DAY NEXT DAY 3 DAYS 5 DAYS NEED BY:  
 REQUESTED:

INSTRUCTIONS: ANALYZE ALL  STOP POSITIVE

SAMPLE ID		SAMPLE ID	
1	NSYC-36-01-01	16	NSYC-36-21-02
2	01-02	17	21-03
3	01-03	18	NSYC-36-22-01
4	05-02	19	
5	05-03	20	
6	13-01	21	
7	13-02	22	
8	13-03	23	
9	19-01	24	
	19-02	25	
11	19-03	26	
12	20-01	27	
13	26-02	28	
14	26-03	29	
15	NSYC-36-21-01	30	

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: <u>Chas B. Brown</u>	RECEIVED BY: <u>[Signature]</u>
DATE: <u>01MAY00</u> TIME: <u>15:16</u>	DATE: <u>5/1/00</u> TIME: <u>15:16</u>
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/2/00

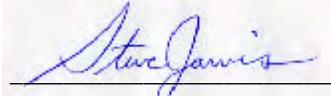
REPORT ISSUED: 9/12/00  
 PAGE: 1 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6121-1	NSYC-31-01-01		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)			3 CELLULOSE 1 WOLLASTONITE	30 AGGREGATES 66 OTHER
6121-2	NSYC-31-01-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		2 CHRYSOTILE	10 SYNTHETICS	80 BITUMEN 8 OTHER
6122	NSYC-31-01-02		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED		5 CELLULOSE 1 WOLLASTONITE	30 AGGREGATES 64 OTHER
6123	NSYC-31-01-03		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED		5 CELLULOSE 1 WOLLASTONITE	30 AGGREGATES 64 OTHER
6124-1	NSYC-31-02-02		1 (of 2)	LIGHT GRAY HARD RESILIENT TO GRANULAR (FT)		6 CHRYSOTILE		25 AGGREGATES 69 OTHER
6124-2	NSYC-31-02-02		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		7 CHRYSOTILE		80 BITUMEN 13 OTHER
6125	NSYC-31-02-03			NOT ANALYZED	NOT ANALYZED			
6126-1	NSYC-31-04-01		1 (of 2)	RED HARD RESILIENT TO GRANULAR (FT)		15 CHRYSOTILE	2 CELLULOSE	25 AGGREGATES 58 OTHER

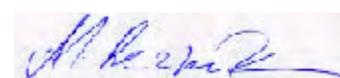
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/2/00

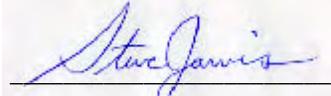
REPORT ISSUED: 9/12/00  
 PAGE: 2 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6126-2	NSYC-31-04-01		2 (of 2)	BROWN HARD BRITTLE		5 CHRYSOTILE	1 CELLULOSE	85 MASTIC 9 OTHER
6127	NSYC-31-04-02			NOT ANALYZED	NOT ANALYZED			
6128	NSYC-31-04-03			NOT ANALYZED	NOT ANALYZED			
6129	NSYC-31-18-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			15 CELLULOSE 25 GLASS FIBERS	60 OTHER
6130	NSYC-31-18-02		1 (of 1)	GRAY SEMI-HARD POWDERY TO SILTY WITH CANVAS AND PAINT			25 CELLULOSE 20 GLASS FIBERS	55 OTHER
6131	NSYC-31-18-03		1 (of 1)	GRAY SEMI-HARD POWDERY TO SILTY WITH CANVAS AND PAINT			20 CELLULOSE 20 GLASS FIBERS	60 OTHER
6132	NSYC-31-22-01		1 (of 1)	GRAY HARD SILTY			1 WOLLASTONITE 1 TALC	98 OTHER
6133	NSYC-31-22-02		1 (of 1)	GRAY HARD SILTY			2 WOLLASTONITE 1 TALC	97 OTHER

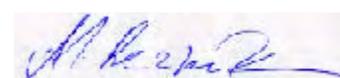
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/2/00

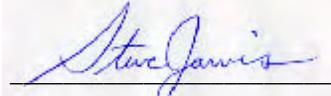
REPORT ISSUED: 9/12/00  
 PAGE: 3 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6134	NSYC-31-22-03		1 (of 1)	GRAY HARD SILTY			2 WOLLASTONITE 1 TALC	97 OTHER
6135	NSYC-31-25-01		1 (of 1)	TAN HARD GRANULAR SOIL				90 AGGREGATES 2 MICA/ VERMICULITE 8 OTHER
6136	NSYC-31-25-02		1 (of 1)	TAN HARD GRANULAR SOIL				90 AGGREGATES 1 MICA/ VERMICULITE 9 OTHER
6137	NSYC-31-25-03		1 (of 1)	TAN HARD GRANULAR SOIL		<1 CHRYSOTILE	1 CELLULOSE	90 AGGREGATES 9 OTHER
6138	NSYC-31-26-01		1+2 (of 2)	1. GRAY SOFT POWDERY TO FIBROUS; 2. BLACK SEMI-HARD BITUMINOUS			5 CELLULOSE 25 GLASS FIBERS	10 BITUMEN 60 OTHER
6139	NSYC-31-26-02		1 (of 1)	TAN SOFT POWDERY TO FIBROUS			3 CELLULOSE 25 GLASS FIBERS	1 BITUMEN 71 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/2/00

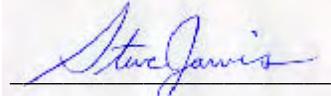
REPORT ISSUED: 9/12/00  
 PAGE: 4 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6140	NSYC-31-26-03		1+2 (of 2)	1. TAN SOFT POWDERY TO FIBROUS; 2. BLACK SOFT SEMI-HARD BITUMINOUS WITH CANVAS AND PAINT			10 CELLULOSE 25 GLASS FIBERS	10 BITUMEN 55 OTHER
6141	NSYC-31-27-01		1 (of 1)	YELLOW SOFT FIBROUS WITH BLACK MASTIC AND ALUMINUM FOIL			5 CELLULOSE 55 GLASS FIBERS	20 BITUMEN 15 METAL 5 OTHER
6142	NSYC-31-27-02		1 (of 1)	YELLOW SOFT FIBROUS WITH BLACK MASTIC AND ALUMINUM FOIL			3 CELLULOSE 65 GLASS FIBERS	20 BITUMEN 10 METAL 2 OTHER
6143	NSYC-31-27-03		1 (of 1)	WHITE SOFT WOVEN FIBROUS WITH PAINT			60 CELLULOSE 10 GLASS FIBERS	30 OTHER
6144-1	NSYC-32-01-01		1 (of 2)	BLACK HARD RESILIENT TO GRANULAR (FT)		<b>8 CHRYSOTILE</b>		30 AGGREGATES 62 OTHER
6144-2	NSYC-32-01-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		<b>8 CHRYSOTILE</b>	1 CELLULOSE 1 SYNTHETICS	80 BITUMEN 10 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
PROJECT NO: 00009.008.000

LAB JOB NO: B0087  
DATE RECEIVED: 5/1/00  
DATE ANALYZED: 5/2/00

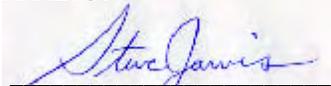
REPORT ISSUED: 9/12/00  
PAGE: 5 of 25

**RESULT OF ANALYSIS IN VOLUME  
PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6145	NSYC-32-01-02			NOT ANALYZED	NOT ANALYZED			
6146	NSYC-32-01-03			NOT ANALYZED	NOT ANALYZED			
6147-1	NSYC-32-02-01		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)		2 CHRYSOTILE	1 CELLULOSE	30 AGGREGATES 67 OTHER
6147-2	NSYC-32-02-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		8 CHRYSOTILE	1 CELLULOSE 1 SYNTHETICS	80 BITUMEN 10 OTHER
6148	NSYC-32-02-02			NOT ANALYZED	NOT ANALYZED			
6149	NSYC-32-02-03			NOT ANALYZED	NOT ANALYZED			
6150-1	NSYC-32-05-02		1 (of 2)	GRAY AND WHITE HARD RESILIENT TO GRANULAR (FT)			3 CELLULOSE	35 AGGREGATES 62 OTHER
6150-2	NSYC-32-05-02		2 (of 2)	MIXTURE OF BLACK MASTIC AND YELLOW GLUE		2 CHRYSOTILE	4 CELLULOSE 3 SYNTHETICS	70 BITUMEN 15 MASTIC 6 OTHER

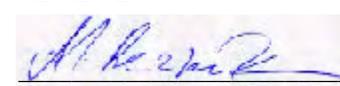
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/2/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/2/00

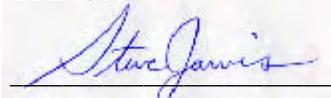
REPORT ISSUED: 9/12/00  
 PAGE: 6 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6151	NSYC-32-05-03		1 (of 2)	GRAY AND WHITE HARD RESILIENT TO GRANULAR (FT)	LAYER 2: NOT ANALYZED		3 CELLULOSE	25 AGGREGATES 72 OTHER
6152-1	NSYC-32-07-02		1 (of 2)	BLACK HARD RESILIENT TO GRANULAR (FT)		10 CHRYSOTILE		25 AGGREGATES 65 OTHER
6152-2	NSYC-32-07-02		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		<1 CHRYSOTILE	3 CELLULOSE	90 BITUMEN 7 OTHER
6153	NSYC-32-07-03		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED	<1 CHRYSOTILE	3 CELLULOSE	90 BITUMEN 7 OTHER
6154	NSYC-32-12-01		1 (of 1)	WHITE SOFT FIBROUS WITH CANVAS AND PAINT		50 CHRYSOTILE	10 CELLULOSE 10 GLASS FIBERS	30 OTHER
6155	NSYC-32-14-01		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 GLASS FIBERS 1 WOLLASTONITE 1 TALC	97 OTHER
6156	NSYC-32-19-01		1 (of 1)	WHITE HARD CEMENTITIOUS TO GRANULAR WITH FIBERS AND PAINT			7 GLASS FIBERS	20 AGGREGATES 73 OTHER

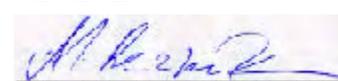
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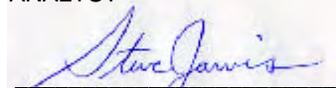
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**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

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6157	NSYC-32-19-02		1 (of 1)	WHITE HARD CEMENTITIOUS TO FIBROUS TO GRANULAR WITH PAINT			15 GLASS FIBERS	25 AGGREGATES 60 OTHER
6158	NSYC-32-19-03		1 (of 1)	WHITE HARD CEMENTITIOUS TO GRANULAR WITH FIBERS AND PAINT			5 GLASS FIBERS	25 AGGREGATES 70 OTHER
6159	NSYC-32-20-01		1 (of 1)	WHITE SEMI-HARD POWDERY TO SILTY WITH MICA AND PAINT			1 CELLULOSE	10 MICA/ VERMICULITE 89 OTHER
6160	NSYC-32-20-02		1 (of 1)	WHITE SEMI-HARD POWDERY TO SILTY WITH MICA AND PAINT			1 CELLULOSE 1 WOLLASTONITE	15 MICA/ VERMICULITE 83 OTHER
6161	NSYC-32-20-03		1 (of 1)	WHITE SEMI-HARD POWDERY TO SILTY WITH MICA AND PAINT			1 CELLULOSE	15 MICA/ VERMICULITE 84 OTHER
6162	NSYC-32-21-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS		30 AMOSITE		70 OTHER
6163	NSYC-32-21-02			NOT ANALYZED	NOT ANALYZED			

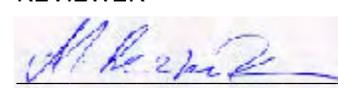
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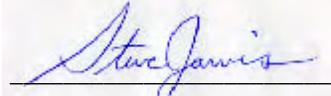
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6164	NSYC-32-21-03			NOT ANALYZED	NOT ANALYZED			
6165	NSYC-32-22-01		1 (of 1)	YELLOW SOFT FIBROUS WITH BLACK MASTIC AND ALUMINUM FOIL			3 CELLULOSE 70 GLASS FIBERS	15 BITUMEN 10 METAL 2 OTHER
6166	NSYC-32-22-02		1 (of 1)	YELLOW SOFT FIBROUS WITH GLUE AND ALUMINUM FOIL			80 GLASS FIBERS	7 MASTIC 10 METAL 3 OTHER
6167	NSYC-32-22-03		1+2 (of 2)	1. YELLOW SOFT FIBROUS; 2. BLACK SOFT BITUMINOUS WITH FIBERS			10 CELLULOSE 60 GLASS FIBERS	25 BITUMEN 5 OTHER
6168	NSYC-32-23-01		1 (of 1)	TAN HARD GRANULAR SOIL WITH FIBERS		<1 AMOSITE	1 CELLULOSE 3 GLASS FIBERS	85 AGGREGATES 11 OTHER
6169	NSYC-32-23-02		1 (of 1)	TAN HARD GRANULAR SOIL WITH FIBERS		<1 AMOSITE	2 CELLULOSE 2 GLASS FIBERS	90 AGGREGATES 6 OTHER
6170	NSYC-32-23-03		1 (of 1)	HARD ORANGE GRANULAR SOIL			7 CELLULOSE 1 GLASS FIBERS	85 AGGREGATES 7 OTHER

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DATE RECEIVED: 5/1/00  
DATE ANALYZED: 5/4/00

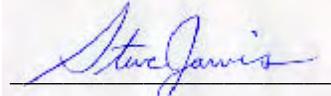
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6171-1	NSYC-33-01-01		1 (of 2)	BLACK HARD RESILIENT TO GRANULAR (FT)		5 CHRYSOTILE		30 AGGREGATES 65 OTHER
6171-2	NSYC-33-01-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		2 CHRYSOTILE	2 CELLULOSE	85 BITUMEN 11 OTHER
6172	NSYC-33-01-02			NOT ANALYZED	NOT ANALYZED			
6173	NSYC-33-01-03			NOT ANALYZED	NOT ANALYZED			
6174	NSYC-33-02-01		1 (of 1)	WHITE HARD RESILIENT TO GRANULAR (FT) WITH WHITE GLUE AND PLASTER BACKING			1 CELLULOSE	35 AGGREGATES 2 MASTIC 62 OTHER
6175-1	NSYC-33-02-02		1 (of 3)	YELLOW HARD BRITTLE GLUE			2 CELLULOSE	90 MASTIC 8 OTHER
6175-2	NSYC-33-02-02		2 (of 3)	OFF-WHITE HARD RESILIENT TO GRANULAR (FT)		6 CHRYSOTILE		35 AGGREGATES 59 OTHER

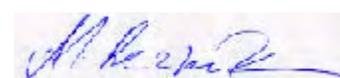
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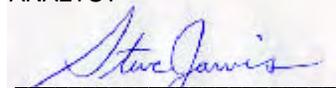
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**RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6175-3	NSYC-33-02-02		3 (of 3)	MIXTURE OF BLACK MASTIC AND GOLD GLUE		4 CHRYSOTILE	2 CELLULOSE	60 BITUMEN 20 MASTIC 14 OTHER
6176	NSYC-33-02-03		1 (of 3)	YELLOW HARD BRITTLE GLUE WITH FIBERS	LAYER 2 AND 3: NOT ANALYZED		2 CELLULOSE 3 SYNTHETICS	90 MASTIC 5 OTHER
6177-1	NSYC-33-03-01		1 (of 3)	YELLOW SOFT GUMMY MASTIC WITH FIBERS			2 CELLULOSE 3 SYNTHETICS	90 MASTIC 5 OTHER
6177-2	NSYC-33-03-01		2 (of 3)	OFF-WHITE HARD RESILIENT TO GRANULAR (FT)		7 CHRYSOTILE		30 AGGREGATES 63 OTHER
6177-3	NSYC-33-03-01		3 (of 3)	MIXTURE OF BLACK MASTIC AND GOLD GLUE		5 CHRYSOTILE		70 BITUMEN 15 MASTIC 10 OTHER
6178-1	NSYC-33-05-02		1 (of 2)	BROWN HARD RESILIENT TO GRANULAR (FT)		8 CHRYSOTILE	2 CELLULOSE	25 AGGREGATES 65 OTHER
6178-2	NSYC-33-05-02		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS			2 CELLULOSE	90 BITUMEN 8 OTHER

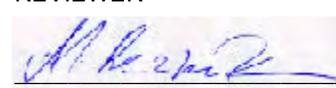
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6179	NSYC-33-05-03		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS	LAYER 1: NOT ANALYZED		3 CELLULOSE	90 BITUMEN 7 OTHER
6180	NSYC-33-07-01		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			20 CELLULOSE	3 MICA/ VERMICULITE 77 OTHER
6181	NSYC-33-07-02		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			20 CELLULOSE	3 MICA/ VERMICULITE 77 OTHER
6182	NSYC-33-12-01		1 (of 1)	GRAY HARD SILTY WITH PAINT			1 CELLULOSE 2 GLASS FIBERS	97 OTHER
6183	NSYC-33-20-01		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS AND MICA			3 SYNTHETICS	80 BITUMEN 10 MICA/ VERMICULITE 7 OTHER

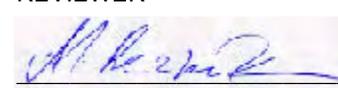
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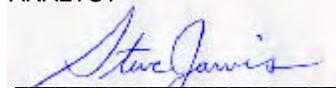
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6184	NSYC-33-22-01		1 (of 1)	TAN HARD CEMENTITIOUS TO POWDERY TO GRANULAR SOIL WITH FIBERS			2 CELLULOSE 3 GLASS FIBERS	85 AGGREGATES 10 OTHER
6185	NSYC-33-22-02		1 (of 1)	TAN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS			2 CELLULOSE 2 GLASS FIBERS	85 AGGREGATES 11 OTHER
6186	NSYC-33-22-03		1 (of 1)	TAN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS			2 CELLULOSE 1 GLASS FIBERS	85 AGGREGATES 12 OTHER
6187	NSYC-33-23-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS			3 CELLULOSE 25 GLASS FIBERS 2 SYNTHETICS	70 OTHER
6188	NSYC-33-23-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT	5% CHRYSOTILE IN CANVAS/PAINT WHICH IS 25% OF SAMPLE VOLUME	<b>4 CHRYSOTILE</b>	3 CELLULOSE 30 GLASS FIBERS 2 WOLLASTONITE	61 OTHER
6189	NSYC-33-23-03			NOT ANALYZED	NOT ANALYZED			

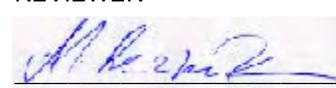
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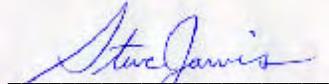
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6190	NSYC-33-24-01		1 (of 1)	YELLOW SOFT FIBROUS WITH ALUMINUM FOIL AND PAPER			15 CELLULOSE 65 GLASS FIBERS	15 METAL 5 OTHER
6191	NSYC-33-24-02		1+2 (of 2)	1. YELLOW SOFT FIBROUS; 2. BLACK SOFT BITUMINOUS WITH FIBERS			15 CELLULOSE 40 GLASS FIBERS	40 BITUMEN 5 OTHER
6192	NSYC-33-24-03		1 (of 1)	YELLOW SOFT FIBROUS WITH BLACK MASTIC, ALUMINUM FOIL, AND PAPER			15 CELLULOSE 60 GLASS FIBERS	10 BITUMEN 10 METAL 5 OTHER
6193	NSYC-34-02-01		1 (of 1)	BROWN HARD RESILIENT TO GRANULAR (FT) WITH RED PAINT		<b>2 CHRYSOTILE</b>	2 GLASS FIBERS	35 AGGREGATES 61 OTHER
6194	NSYC-34-02-02			NOT ANALYZED	NOT ANALYZED			
6195	NSYC-34-02-03			NOT ANALYZED	NOT ANALYZED			
6196-1	NSYC-34-04-02		1+2 (of 3)	1. YELLOW HARD MASTIC WITH FIBERS; 2. BLUE HARD RESILIENT TO GRANULAR (FT)			2 CELLULOSE 5 SYNTHETICS	25 AGGREGATES 7 MASTIC 61 OTHER

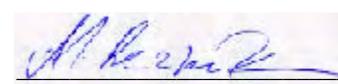
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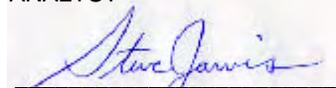
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6196-2	NSYC-34-04-02		3 (of 3)	BLACK SOFT BITUMINOUS WITH FIBERS		3 CHRYSOTILE	2 CELLULOSE 1 SYNTHETICS	80 BITUMEN 14 OTHER
6197-1	NSYC-34-04-03		1 (of 2)	BLUE HARD RESILIENT TO GRANULAR (FT)		4 CHRYSOTILE	1 CELLULOSE	25 AGGREGATES 70 OTHER
6197-2	NSYC-34-04-03		2 (of 2)	MIXTURE OF BLACK MASTIC AND YELLOW GLUE		2 CHRYSOTILE		25 BITUMEN 60 MASTIC 13 OTHER
6198-1	NSYC-34-05-02		1 (of 2)	GOLD HARD RESILIENT TO GRANULAR (FT)		6 CHRYSOTILE		30 AGGREGATES 64 OTHER
6198-2	NSYC-34-05-02		2 (of 2)	MIXTURE OF BLACK MASTIC AND YELLOW GLUE		3 CHRYSOTILE	2 CELLULOSE	60 BITUMEN 20 MASTIC 15 OTHER
6199	NSYC-34-05-03			NOT ANALYZED	NOT ANALYZED			
6200-1	NSYC-34-08-03		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)		3 CHRYSOTILE	2 WOLLASTONITE	35 AGGREGATES 60 OTHER

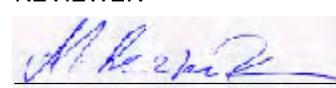
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STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087-1  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/4/00

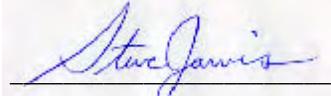
REPORT ISSUED: 9/12/00  
 PAGE: 15 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6200-2	NSYC-34-08-03		2 (of 2)	YELLOW GUMMY MASTIC			2 CELLULOSE	90 MASTIC 8 OTHER
6201	NSYC-34-14-01		1+2 (of 2)	1. GRAY SOFT FIBROUS WITH PAINT; 2. LIGHT GRAY HARD SILTY WITH FIBERS			10 CELLULOSE	90 OTHER
6202	NSYC-34-14-02		1+2 (of 2)	1. GRAY SOFT FIBROUS WITH PAINT; 2. LIGHT GRAY HARD SILTY WITH FIBERS			15 CELLULOSE	85 OTHER
6203	NSYC-34-14-03		1+2+3 (of 3)	1. LIGHT GRAY HARD SILTY WITH FIBERS; 2. GRAY SOFT FIBROUS; 3. WHITE SEMI-HARD RESILIENT CANVAS WITH PAINT AND JOINT COMPOUND			25 CELLULOSE 3 SYNTHETICS	2 MICA/ VERMICULITE 70 OTHER
6204	NSYC-34-15-01		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS AND MICA			1 CELLULOSE 4 SYNTHETICS	75 BITUMEN 10 MICA/ VERMICULITE 10 OTHER

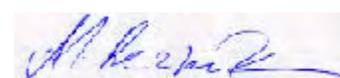
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 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6205	NSYC-34-16-01		1 (of 1)	WHITE HARD SILTY WITH MICA AND PAINT			1 CELLULOSE	7 MICA/ VERMICULITE 92 OTHER
6206	NSYC-34-16-02		1 (of 1)	WHITE HARD SILTY WITH MICA AND PAINT			1 CELLULOSE	8 MICA/ VERMICULITE 91 OTHER
6207	NSYC-34-16-03		1 (of 1)	WHITE HARD SILTY WITH MICA AND PAINT			1 CELLULOSE 1 GLASS FIBERS	8 MICA/ VERMICULITE 90 OTHER
6208	NSYC-34-21-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			30 CELLULOSE 25 GLASS FIBERS	45 OTHER
6209	NSYC-34-21-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			30 CELLULOSE 20 GLASS FIBERS	50 OTHER
6210	NSYC-34-21-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH CANVAS AND PAINT			30 CELLULOSE 15 GLASS FIBERS 1 SYNTHETICS	54 OTHER

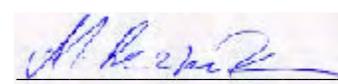
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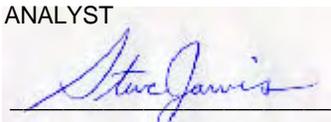
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6211	NSYC-34-23-01		1 (of 1)	GRAY HARD SILTY WITH PAINT		2 CHRYSOTILE	2 CELLULOSE	96 OTHER
6212	NSYC-34-26-01		1 (of 1)	WHITE HARD CEMENTITIOUS TO FIBROUS TO GRANULAR WITH PAINT			15 GLASS FIBERS	25 AGGREGATES 60 OTHER
6213	NSYC-34-26-02		1 (of 1)	WHITE HARD CEMENTITIOUS TO FIBROUS TO GRANULAR WITH PAINT			20 GLASS FIBERS	25 AGGREGATES 55 OTHER
6214	NSYC-34-26-03		1 (of 1)	WHITE HARD CEMENTITIOUS TO WOVEN FIBROUS WITH PAINT			25 GLASS FIBERS	20 AGGREGATES 55 OTHER
6215-1	NSYC-34-27-01		1 (of 2)	BLACK HARD RESILIENT TO GRANULAR (FT) WITH PAINT		4 CHRYSOTILE		35 AGGREGATES 61 OTHER
6215-2	NSYC-34-27-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		7 CHRYSOTILE	2 CELLULOSE	80 BITUMEN 11 OTHER
6216	NSYC-34-27-02			NOT ANALYZED	NOT ANALYZED			
6217	NSYC-34-27-03			NOT ANALYZED	NOT ANALYZED			

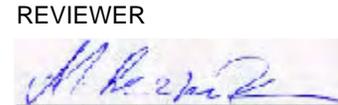
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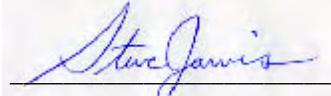
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6218	NSYC-34-28-01		1 (of 1)	TAN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS	THERMAL INSULATION IS 25% OF SAMPLE VOLUME AND CONTAINS 3% CHRYSOTILE	<1 CHRYSOTILE	5 CELLULOSE 10 GLASS FIBERS	80 AGGREGATES 5 OTHER
6219	NSYC-34-28-02		1 (of 1)	TAN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS	THERMAL INSULATION IS 10% OF SAMPLE VOLUME AND CONTAINS 5% AMOSITE	<1 AMOSITE	3 CELLULOSE 5 GLASS FIBERS	85 AGGREGATES 7 OTHER
6220	NSYC-34-28-03		1 (of 1)	TAN AND BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS	THERMAL INSULATION IS 5% OF SAMPLE VOLUME AND CONTAINS 3% CHRYSOTILE	<1 CHRYSOTILE	3 CELLULOSE 5 GLASS FIBERS	85 AGGREGATES 7 OTHER

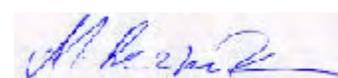
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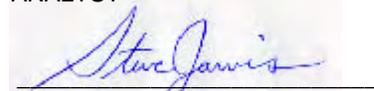
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 PERCENTAGE (BY VISUAL ESTIMATE)**

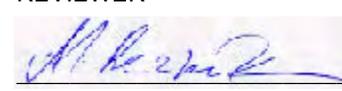
SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6221	NSYC-34-29-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS		30 AMOSITE		70 OTHER
6222	NSYC-34-29-02			NOT ANALYZED	NOT ANALYZED			
6223	NSYC-34-29-03			NOT ANALYZED	NOT ANALYZED			
6224	NSYC-34-30-01		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS			10 CELLULOSE 7 GLASS FIBERS	75 BITUMEN 8 OTHER
6225	NSYC-34-30-02		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS AND AGGREGATES		5 CHRYSOTILE	10 CELLULOSE 5 GLASS FIBERS	65 BITUMEN 10 AGGREGATES 5 OTHER
6226	NSYC-34-30-03			NOT ANALYZED	NOT ANALYZED			
6227-1	NSYC-35-06-01		1 (of 3)	CREAM HARD BRITTLE GLUE			1 CELLULOSE 1 SYNTHETICS	90 MASTIC 8 OTHER
6227-2	NSYC-35-06-01		2 (of 3)	OFF-WHITE HARD RESILIENT TO GRANULAR (FT)		5 CHRYSOTILE		30 AGGREGATES 65 OTHER

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ANALYST

  
 STEVE JARVIS

REVIEWER

  
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**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087-2  
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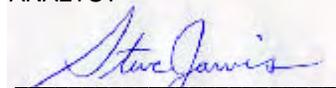
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 PAGE: 20 of 25

**RESULT OF ANALYSIS IN VOLUME PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6227-3	NSYC-35-06-01		3 (of 3)	OFF-WHITE HARD RESILIENT TO GRANULAR (FT)		5 CHRYSOTILE	2 CELLULOSE	80 BITUMEN 13 OTHER
6228	NSYC-35-06-02		1 (of 3)	CREAM HARD BRITTLE GLUE	LAYERS 2 AND 3: NOT ANALYZED		2 CELLULOSE 2 SYNTHETICS	90 MASTIC 6 OTHER
6229	NSYC-35-06-03		1 (of 3)	CREAM HARD BRITTLE GLUE	LAYERS 2 AND 3: NOT ANALYZED		2 CELLULOSE 1 SYNTHETICS	90 MASTIC 7 OTHER
6230	NSYC-35-12-01		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			35 CELLULOSE 2 GLASS FIBERS 1 WOLLASTONITE	3 MICA/ VERMICULITE 59 OTHER
6231	NSYC-35-12-02		1+2 (of 2)	1. LIGHT GRAY HARD SILTY WITH FIBERS; 2. WHITE HARD SILTY WITH MICA (J/C) WITH PAINT			3 CELLULOSE 1 WOLLASTONITE	4 MICA/ VERMICULITE 92 OTHER
6232	NSYC-35-12-03		1+2+3 (of 3)	1. WHITE HARD SILTY WITH MICA (J/C) AND PAINT; 2.GRAY SOFT FIBROUS; 3. LIGHT GRAY HARD SILTY WITH FIBERS			20 CELLULOSE 3 GLASS FIBERS 1 WOLLASTONITE	2 MICA/ VERMICULITE 74 OTHER

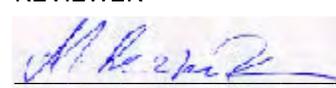
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CLIENT NAME: NAVY SOUTH DIVISION  
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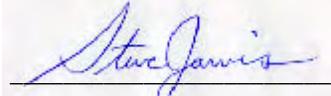
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6233	NSYC-35-25-01		1 (of 1)	GRAY HARD SILTY		<1 CHRYSOTILE	2 CELLULOSE 1 WOLLASTONITE	97 OTHER
6234	NSYC-35-26-01		1 (of 1)	WHITE SOFT POWDERY TO FIBROUS		20 AMOSITE	2 CELLULOSE 5 GLASS FIBERS	73 OTHER
6235	NSYC-35-26-02			NOT ANALYZED	NOT ANALYZED			
6236	NSYC-35-26-03			NOT ANALYZED	NOT ANALYZED			
6237	NSYC-35-27-01		1 (of 1)	TAN AND WHITE SOFT POWDERY TO GRANULAR SOIL	TSI DEBRIS (20% OF SAMPLE) CONTAINS 20% AMOSITE	4 AMOSITE	1 CELLULOSE 1 GLASS FIBERS	70 AGGREGATES 24 OTHER
6238	NSYC-35-27-02		1 (of 1)	GRAY AND TAN SOFT POWDERY TO FIBROUS TO GRANULAR SOIL	TSI DEBRIS (40% OF SAMPLE) CONTAINS 8% CHRYSOTILE	3 CHRYSOTILE	2 CELLULOSE 15 GLASS FIBERS	70 AGGREGATES 10 OTHER

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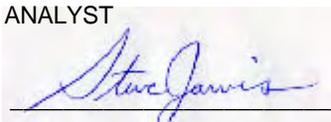
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6239	NSYC-35-27-03		1 (of 1)	TAN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS			2 CELLULOSE 1 GLASS FIBERS	80 AGGREGATES 1 MICA/ VERMICULITE 16 OTHER
6240	NSYC-35-28-01		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS AND ALUMINUM FOIL		8 CHRYSOTILE	3 CELLULOSE 5 GLASS FIBERS	40 BITUMEN 30 METAL 14 OTHER
6241	NSYC-35-28-02			NOT ANALYZED	NOT ANALYZED			
6242	NSYC-35-28-03			NOT ANALYZED	NOT ANALYZED			
6243-1	NSYC-36-01-01		1 (of 2)	BLACK HARD RESILIENT TO GRANULAR (FT)		7 CHRYSOTILE		30 AGGREGATES 63 OTHER
6243-2	NSYC-36-01-01		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		2 CHRYSOTILE	1 CELLULOSE	90 BITUMEN 7 OTHER
6244	NSYC-36-01-02			NOT ANALYZED	NOT ANALYZED			

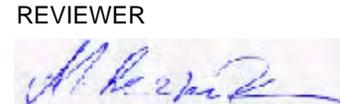
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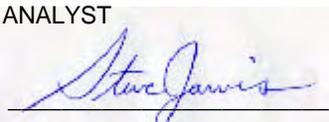
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6245	NSYC-36-01-03			NOT ANALYZED	NOT ANALYZED			
6246-1	NSYC-36-05-02		1 (of 2)	GREEN HARD RESILIENT TO GRANULAR (FT)		8 CHRYSOTILE	1 CELLULOSE 1 WOLLASTONITE	30 AGGREGATES 60 OTHER
6246-2	NSYC-36-05-02		2 (of 2)	BLACK SOFT BITUMINOUS WITH FIBERS		2 CHRYSOTILE	1 CELLULOSE	90 BITUMEN 7 OTHER
6247	NSYC-36-05-03			NOT ANALYZED	NOT ANALYZED			
6248	NSYC-36-13-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS			3 CELLULOSE 25 GLASS FIBERS	72 OTHER
6249	NSYC-36-13-02		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH PAINT			2 CELLULOSE 25 GLASS FIBERS 1 TALC	1 MICA/ VERMICULITE 71 OTHER
6250	NSYC-36-13-03		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS WITH PAINT			2 CELLULOSE 25 GLASS FIBERS 1 SYNTHETICS 1 TALC	71 OTHER

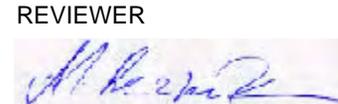
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 PROJECT NO: 00009.008.000

LAB JOB NO: B0087-2  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/5/00

REPORT ISSUED: 9/12/00  
 PAGE: 24 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6251	NSYC-36-19-01		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS			2 CELLULOSE 5 GLASS FIBERS	80 AGGREGATES 13 OTHER
6252	NSYC-36-19-02		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS	TSI DEBRIS (50% OF SAMPLE) CONTAINS 5% CHRYSOTILE	<b>3 CHRYSOTILE</b>	2 CELLULOSE 15 GLASS FIBERS	65 AGGREGATES 15 OTHER
6253	NSYC-36-19-03		1 (of 1)	BROWN SOFT POWDERY TO GRANULAR SOIL WITH FIBERS	TSI DEBRIS (10% OF SAMPLE) CONTAINS 5% CHRYSOTILE	<b>&lt;1 CHRYSOTILE</b>	2 CELLULOSE 10 GLASS FIBERS	85 AGGREGATES 3 OTHER
6254	NSYC-36-20-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS		<b>30 AMOSITE</b>		70 OTHER
6255	NSYC-36-20-02			NOT ANALYZED	NOT ANALYZED			
6256	NSYC-36-20-03			NOT ANALYZED	NOT ANALYZED			

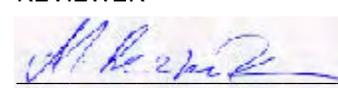
ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993. FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/5/00

ANALYST



STEVE JARVIS

REVIEWER



ALEKSEY REZNIK

**POLARIZED LIGHT MICROSCOPY (PLM)**  
**BULK SAMPLES ANALYSIS REPORT**

CLIENT NAME: NAVY SOUTH DIVISION  
 PROJECT NAME: NAVAL SHIPYARD CHARLESTON  
 PROJECT NO: 00009.008.000

LAB JOB NO: B0087-2  
 DATE RECEIVED: 5/1/00  
 DATE ANALYZED: 5/5/00

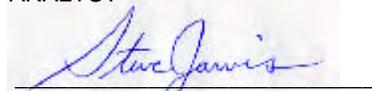
REPORT ISSUED: 9/12/00  
 PAGE: 25 of 25

**RESULT OF ANALYSIS IN VOLUME  
 PERCENTAGE (BY VISUAL ESTIMATE)**

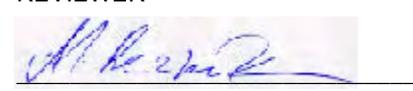
SAMPLE LAB ID	SAMPLE CLIENT ID	SAMPLE INFO	LAYER NUMBER	APPEARANCE	COMMENT	% ASBESTOS FIBERS	% NON ASBESTOS FIBERS	% NON FIBROUS COMPONENTS
6257	NSYC-36-21-01		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS AND PAINT			15 CELLULOSE 3 GLASS FIBERS 5 SYNTHETICS	70 BITUMEN 7 OTHER
6258	NSYC-36-21-02		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS			10 CELLULOSE 10 GLASS FIBERS	75 BITUMEN 5 OTHER
6259	NSYC-36-21-03		1 (of 1)	BLACK SOFT BITUMINOUS WITH FIBERS AND A TRACE OF PAINT			3 CELLULOSE 15 GLASS FIBERS	75 BITUMEN 7 OTHER
6260	NSYC-36-22-01		1 (of 1)	GRAY SOFT POWDERY TO FIBROUS		<b>4 CHRYSOTILE</b>	2 CELLULOSE 30 GLASS FIBERS	64 OTHER

ANALYSIS WAS PERFORMED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH U.S. EPA/600/R-93/116 METHOD OF JULY 1993.  
 FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH LAYER WAS ANALYZED SEPARATELY. LAST CALIBRATION OF EQUIPMENT WAS PERFORMED ON: 5/5/00

ANALYST

  
 STEVE JARVIS

REVIEWER

  
 ALEKSEY REZNIK

**CHAIN OF CUSTODY**

LABORATORY NAME: MAS

CLIENT NAME: Southern PROJECT MANAGER: Juan Hernandez

PROJECT NAME: NAVA/Shipyard/Charleston PROJECT NUMBER: 00009.008.000

ANALYSIS REQUESTED: PLM  OTHER: \_\_\_\_\_

TURNAROUND TIME SAME DAY  NEXT DAY  3 DAYS  5 DAYS  NEED BY: \_\_\_\_\_

REQUESTED: \_\_\_\_\_

INSTRUCTIONS: ANALYZE ALL  STOP POSITIVE

SAMPLE ID		SAMPLE ID
1	<u>NSYC-31-02-01-QC</u>	16
2	<u>31-02-01-QC</u>	17
3	<u>32-02-01-QC</u>	18
4	<u>32-07-02-QC</u>	19
5	<u>32-23-01-QC</u>	20
6	<u>33-03-01-QC</u>	21
7	<u>34-15-01-QC</u>	22
8	<u>34-16-01-QC</u>	23
9	<u>34-26-01-QC</u>	24
10	<u>34-36-01-QC</u>	25
11	<u>35-12-01-QC</u>	26
12	<u>35-26-01-QC</u>	27
13	<u>NSYC-36-01-01-QC</u>	28
14		29
15		30

SPECIAL INSTRUCTIONS:

\_\_\_\_\_

\_\_\_\_\_

RELINQUISHED BY: <u>Don B. Ross</u>	RECEIVED BY: <u>Amey Gouse</u>
DATE: <u>5/11/00</u> TIME: <u>0830</u>	DATE: <u>5/3/00</u> TIME: _____
RELINQUISHED BY:	RECEIVED BY:
DATE: _____ TIME: _____	DATE: _____ TIME: _____
RELINQUISHED BY:	RECEIVED BY:
DATE: _____ TIME: _____	DATE: _____ TIME: _____

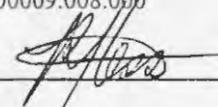
11/100

Client: Cape Environmental Management

Job Name: SDIV Naval Shipyard

Job Number: 00009.008.000

Reviewer: \_\_\_\_\_



**Summary of Results of analysis by Polarized Light Microscopy (PLM)**

CLIENT #	MAS ID # - SPL #	LOCATION	MATERIAL	ANALYSIS
NSYC-31-02-01-QC	M23580-001a		Tile	8% Chrysotile
NSYC-31-02-01-QC	M23580-001b		Mastic	15% Chrysotile
NSYC-31-22-01-QC	M23580-002			NO ASBESTOS OBSERVED
NSYC-32-02-01-QC	M23580-003a		Tile	3% Chrysotile
NSYC-32-02-01-QC	M23580-003b		Mastic	18% Chrysotile
NSYC-32-07-02-QC	M23580-004a		Tile	12% Chrysotile
NSYC-32-07-02-QC	M23580-004b		Mastic	2*% Chrysotile
NSYC-32-23-01-QC	M23580-005			NO ASBESTOS OBSERVED
NSYC-33-03-01-QC	M23580-006a		Mastic on tile upper surface	NO ASBESTOS OBSERVED
NSYC-33-03-01-QC	M23580-006b		Tile	10% Chrysotile
NSYC-33-03-01-QC	M23580-006c		Mastic	17% Chrysotile
NSYC-34-15-01-QC	M23580-007			NO ASBESTOS OBSERVED
NSYC-34-16-01-QC	M23580-008			NO ASBESTOS OBSERVED
NSYC-34-26-01-QC	M23580-009			NO ASBESTOS OBSERVED
NSYC-34-30-01-QC	M23580-010			3% Chrysotile
NSYC-35-12-01-QC	M23580-011			NO ASBESTOS OBSERVED
NSYC-35-26-01-QC	M23580-012			10% Chrysotile
NSYC-36-01-01-QC	M23580-013a			5% Chrysotile
NSYC-36-01-01-QC	M23580-013b			NO ASBESTOS OBSERVED

The samples were analyzed in accordance with EPA document 600/R-93/116, "Method for the Determination of Asbestos in Bulk Building Materials". This report relates only to items tested as received, and may not be used to claim endorsement or certification by Materials Analytical Services, the National Voluntary Laboratory Accreditation Program (EPA), or the U.S. Government. This report may not be reproduced except in full without the approval of Materials Analytical Services, Incorporated (NVLAP # 101235).

## **Certificates**

### **Laboratory and Personnel Certifications**

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# The Environmental Institute

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## Dan B. Ross

Social Security Number - 252-31-8001

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

*Asbestos in Buildings: Inspector Refresher*

February 23, 2000

Course Date

6472

Certificate Number

February 23, 2000

Examination Date

February 22, 2001

Expiration Date

  
David W. Hogue - Course Director

  
Rachel G. McCann - Exam Administrator



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# *The Environmental Institute*

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## *Kevin Scott*

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Social Security Number - 259-21-2393

*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 Refresher*

*June 29, 1999*

Course Date

*6237*

Certificate Number

*June 29, 1999*

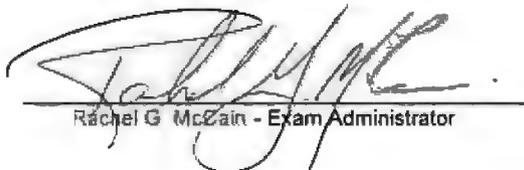
Examination Date

*June 28, 2000*

Expiration Date



Dan Troutman - Course Director



Rachel G. McCain - Exam Administrator



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

United States Department of Commerce  
National Institute of Standards and Technology

**NVLAP**<sup>®</sup>

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**Certificate of Accreditation**

ISO/IEC GUIDE 25:1990  
ISO 9002:1987



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SUWANEE, GA

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**BULK ASBESTOS FIBER ANALYSIS**

June 30, 2000

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Effective through

A handwritten signature in black ink, appearing to read "James L. Galt".

For the National Institute of Standards and Technology

NVLAP Lab Code: 101235-0

United States Department of Commerce  
National Institute of Standards and Technology

NVLAP<sup>®</sup>

ISO/IEC GUIDE 25:1990  
ISO 9002:1987

Certificate of Accreditation



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