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NAS KEY WEST  
5090.3a

LEAD AND ASBESTOS SURVEY OF COMMISSARY STORE BUILDINGS G-1, G-677 AND G-  
678 NAS KEY WEST FL  
5/22/1995  
NAVY PUBLIC WORKS CENTER

0045

**LEAD AND ASBESTOS SURVEY  
OF  
COMMISSARY STORE  
(G-1, G-677, G-678)  
NVSTA KEY WEST, FLORIDA**

**INSPECTION PERFORMED BY  
NAVY PUBLIC WORKS CENTER  
PENSACOLA, FLORIDA**

**MAY 22, 1995**

**TABLE OF CONTENTS**

*Where?*

**COMMISSARY STORE**

**BUILDING**

G-1  
G-677  
G-678

**DRAWING #**

PW DWG # P-2653  
NAVFAC DWG 5083593  
NAVFAC DWG 5083593

**DESCRIPTION**

OLD COMMISSARY  
MISC.  
MISC.

1.0 ASBESTOS. This narrative addresses the inspection, findings, conclusions, and lab analyses performed by Code 468, NPWC Pensacola pertaining to suspect asbestos-containing-material (ACM) in subject buildings.

1.1 All asbestos inspection and sampling was performed by EPA trained and certified asbestos inspectors.

1.2 This table contains a listing of all Asbestos-Containing-Material (ACM) and those materials that were assumed to contain asbestos in the subject building. Material may be assumed positive for asbestos when that material has previously tested positive for the presence of asbestos or the material is inaccessible by typical sampling techniques.

<b>HOMOGENEOUS AREA/MATERIAL</b>	<b>LOCATION</b>	<b>APPROX. QUANTITY</b>	<b>CONDITION FRIABILITY CONTACT</b>
<b>Commissary Store (Bldg. G-1, G-677, G-678)</b>			
HOMO A/12"x12" BROWN FLOOR TILE	2ND DECK EAST OFFICE SUPPLY	280 ft <sup>2</sup>	GOOD NON HIGH
HOMO B/ 9"x9" BLACK FLOOR TILE	EAST 2ND DECK AND STAIR LANDING	1150 ft ft <sup>2</sup>	FAIR NON HIGH
HOMO D/ BEIGE/YELLOW LINOLEUM	1ST DECK CENTER HEAD TOP LAYER	25 ft <sup>2</sup>	FAIR NON HIGH
HOMO E/ 12"x12" BEIGE FLOOR TILE	1ST DECK OPEN BAY, OFFICE SPACES, LOCKER ROOM	12,000 ft <sup>2</sup>	FAIR NON HIGH
HOMO F/ 9"x9" GREY FLOOR TILE	2ND LAYER IN OPEN BAY, 1ST LAYER IN INACCESSIBLE AREAS (SEE PRINT)	17,000 ft <sup>2</sup>	FAIR NON HIGH
HOMO G/ IVORY/GREY FLOOR TILE	1ST DECK CENTER HEAD, 2ND LAYER	25 ft <sup>2</sup>	FAIR NON LOW



HOMO H/ GREEN/IVORY FLOOR TILE	1ST DECK CENTER HEAD, 3RD LAYER	25 ft <sup>2</sup>	FAIR NON LOW
HOMO I/ EXTERIOR WALL PLASTER	EXTERIOR WALLS	~ 14,400 ft <sup>2</sup>	FAIR FRIABLE HIGH
HOMO J/ BUILT UP ROOF ASSUMED	ROOF	~ 20,400 ft <sup>2</sup>	GOOD NON LOW
HOMO K/ TRANSITE SIDING ASSUMED	COMPRESSOR ROOM NORTH WALL	500 ft <sup>2</sup>	FAIR NON HIGH
HOMO L/ TRANSITE CORRUGATED ROOFING ASSUMED	LOADING DOCK SOUTH WALL	800 ft <sup>2</sup>	GOOD NON LOW
ELECTRICAL WIRING ASSUMED	INTERIOR	UNKNOWN	UNKNOWN NON LOW

NOTE: POTENTIAL FOR CONTACT IN ALL AREAS WITH THE EXCEPTION OF THE EXTERIOR WALLS WOULD BE LOW IF ACCESS TO THE BUILDING IS MONITORED.

\* FOR LAB ANALYSES OF ASBESTOS SAMPLES SEE APPENDIX A

**SEE PRINTS FOR ACM HOMOGENEOUS AREA LOCATIONS.**

### 1.3 DEFINITIONS.

#### 1.3.1 Asbestos Containing Materials (ACM)

Surfacing Materials - ACM sprayed or troweled on surfaces (walls, ceilings, structural members) for acoustical, decorative, or fireproofing purposes. This includes plaster and fireproofing insulation.

Thermal System Insulation - Insulation used to inhibit heat transfer or prevent condensation on pipes, boilers, tanks, ducts, and various other components of hot and cold water systems and heating, ventilation, and air conditioning (HVAC) systems. This includes pipe

lagging, pipe wrap, block, batt, and blanket insulation; cement, "muds"; and a variety of other products such as gaskets and ropes.

Miscellaneous Materials - Other, largely nonfriable products and materials such as floor tile, roofing felt, concrete pipe, outdoor siding, and fabrics.

1.3.2 Friable Materials - Material that, when dry, may be crumbled, crushed, pulverized, or reduced to powder by hand pressure, and includes previously non-friable material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

1.3.3 Non-friable Materials - Material which when dry may not be crumbled, pulverized, or reduced to powder by hand pressure.

#### 1.3.4 Assessment Criteria

##### 1.3.4.1 Surfacing Materials

Poor Condition (Significantly damaged) - ACM with one or more of the following characteristics: The surface crumbling or blistering over at least one tenth of the area if the damage is evenly distributed, or at least one quarter if the damage is localized; large areas of material hanging from the surface, delaminated, or showing adhesive failure; at least one tenth of the surface water stained or heavily gouged, marred or abraded or one quarter if the damage is localized; large accumulation of powder, dust, or debris on surfaces beneath the ceiling or wall.

Fair Condition (Damaged) - ACM with one or more of the following characteristics: up to one tenth of the surface (if the damage is evenly distributed) or up to one quarter of the surface (if the damage is localized) is blistered, crumbling, water stained, or gouged marred or abraded; some accumulation of powder, dust or debris on surfaces beneath the ceiling or wall.

Good Condition - ACM with no visible damage or deterioration, or showing only very limited damage or deterioration.

##### 1.3.4.2 Thermal System Insulation

Poor Condition (Significantly Damaged) - ACM with one or more of the following characteristics: mostly missing jackets; water damaged, crushed or heavily gouged or punctured insulation on at least one tenth of pipe runs/risers if the damage is evenly distributed, or at least one quarter if the damage is localized; powder, dust and debris on surfaces beneath pipes, boilers, tanks, etc.

Fair Condition (Damaged) - ACM with one or more of the following characteristics: a few water stains or sections of missing jackets; crushed insulation or water stains, gouges, punctures, or mars on up to one tenth of the insulation if the damage is evenly distributed, or up to one quarter if the damage is localized; some accumulation of powder, dust, debris on surfaces



beneath pipes, boilers, tanks, etc.

Good Condition - ACM with no visible damage or deterioration, or showing only very limited damage or deterioration.

1.3.5 Homogeneous Area - An application of ACM which is uniform in color and texture and appears identical in every respect.

#### 1.3.6 Potential for Contact with the Material

High - Service workers work in the vicinity of the material more than once a week, or the material is in a public area and accessible to building occupants.

Moderate - Service workers work in the vicinity of the material once per month to once per week or the material is in a room or office and accessible to the occupants.

Low - Service workers work in the vicinity of the material less than once per month or the material is visible but not within reach of building occupants.

1.4 Asbestos Containing Material (ACM) Management - The purpose of this survey is to identify Asbestos Containing Materials. It is not to be construed as an Asbestos Management Plan (AMP); however, the following recommendations should be observed when working around ACM to minimize potential health hazards:

1.4.1 Training - Provide two hour asbestos awareness training for custodial and maintenance staff. This training should also be provided on a voluntary basis for any other staff and for building occupants.

1.4.2 Minor Release Episode - A minor release is defined as less than 3 square feet/linear feet of ACM becoming dislodged or falling. Minor release control can be performed by the Facility Coordinator or building maintenance personnel upon having completed 15 hours (two hours "Asbestos Awareness" training and an additional training). If this option is not exercised, the response shall be to restrict the area, restrict air movement in the area, and contact key asbestos abatement personnel. The following actions shall be used;

Restrict entry into the area by persons other than those necessary to perform the maintenance project.

Post signs necessary to prevent entry by unauthorized persons.

Inhibit the spread of any released fibers by thoroughly saturating the debris with wet methods.

Repair the area of damaged ACM with materials such as asbestos-free spackling, plaster caulking, cement, or insulation or seal with latex paint or an encapsulant, or immediately

have the appropriate response action implemented.

Clean all fixtures or other components in the immediate work area using either wet methods or HEPA-vacuum.

Place the asbestos debris and other cleaning material in labeled, double sealed bags or impermeable, leak tight containers.

No "Regulated Area" shall be released for uncontrolled access until the following has been demonstrated

- (1) The area has been visually inspected and found fiber free , and aggressive sampling performed.
- (2) Area monitoring for asbestos fibers performed demonstrating a clearance of less than 0.01f/cc.

**ASBESTOS ENCLOSURE OPERATIONS:** The enclosure should not be dismantled unless the final samples show asbestos concentrations of less than the final standard's action level (29 CFR 1910.58 action level is currently 0.01f/cc). EPA recommends 0.01f/cc be achieved before cleanup is considered complete and the enclosure can be dismantled.

**ASBESTOS NON-ENCLOSURE OPERATIONS:** Monitoring of asbestos "regulated area" shall be the Management Planner's and Industrial Hygienist's decision based upon physical evaluation of the area.

**1.4.3 Major Release Episode -** A major release is defined as any falling or dislodging of friable ACM, greater than 3 square feet/linear feet. Only key asbestos abatement personnel may perform abatement. The following actions shall be taken immediately:

Restrict entry into the area by persons other than those necessary to perform the maintenance project, either by physically isolating the area or by scheduling.

Post signs necessary to prevent entry by unauthorized persons.

Shut off or temporarily modify the air-handling system and restrict other sources of air movement.

Use work practices or other controls to inhibit the spread of any released fibers;

- wet-methods- thoroughly saturate the debris
- protective clothing
- HEPA-vacuums
- mini-enclosures
- glove bags



Repair the area of damaged ACM with materials such as asbestos-free spackling, plaster caulking, cement, or insulation or seal with latex paint or an encapsulant, or immediately have the appropriate response action implemented.

Clean all fixtures or other components in the immediate work area using either wet methods or HEPA-vacuum.

Place the asbestos debris and other cleaning material in labeled, double sealed bags or impermeable, leak tight containers.

No "Regulated Area" shall be released for uncontrolled access until the following has been demonstrated

(1) The area has been visually inspected and found fiber free , and aggressive sampling performed.

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**ASBESTOS NON-ENCLOSURE OPERATIONS:** Monitoring of asbestos "regulated area" shall be the Management Planner's and Industrial Hygienist's decision based upon physical evaluation of the area.

**1.4.4 Maintenance Work (Operating and Controls for Maintaining Asbestos Floor Tile)** The EPA recommends that building owners and custodial/maintenance staff consider the following basic guidelines when stripping wax or finish coat from asbestos-containing floor tile:

1. Avoid stripping floors. Stripping floors should be done as infrequently as possible - perhaps once or twice a year or less depending on circumstances. The frequency should be carefully considered as floor maintenance schedules or contracts are written or renewed.
2. Properly train staff. Custodial or maintenance staff who strip floors should be trained to operate properly and safely the machines, pads, and floor care chemicals used at the facility.
3. Follow appropriate work practices. Custodial or maintenance staff who strip floors should follow appropriate work practices, such as those recommended here, under informed supervision. Directions from floor tile and floor wax product manufacturers on

proper maintenance procedures should be consulted.

4. Strip floors while wet. The floor should be kept adequately wet during the stripping operation. Do NOT perform dry stripping. Prior to machine operation, an emulsion of chemical stripper in water is commonly applied to the floor with a mop to soften the wax or finish coat. After the stripping and before application of the new wax, the floor should be thoroughly cleaned, while wet.

5. Run machine at slow speed. If the machine used to remove wax or finish coat has variable speeds, it should be run at slow speed (about 175-190 rpm) during stripping operation.

6. Select the least abrasive pad possible. EPA recommends the machine be equipped with the least abrasive pad possible to strip wax or finish coat from the asbestos-containing floors.

7. Do not overstrip floors. Stop stripping when the old surface coat is removed. Overstripping can damage the floor and may cause the release of asbestos fibers. Do NOT operate a floor machine with an abrasive pad on unwaxed or unfinished floor.

2.0 LEAD. This narrative addresses the inspection, findings, conclusions, and data accumulated by Code 468, NPWC Pensacola during lead-based-paint and soil surveys of subject buildings and grounds.

2.1 All LBP inspections were performed by EPA trained and certified inspectors.

2.2 Scope of Work

LBP Survey consisted of the following:

Step 1 - Preliminary walkthrough and thorough inspection of all accessible interior and exterior areas of selected representative building components for the purpose of locating and documenting surfaces coated with suspected LBP.

Step 2 - Development and implementation of a testing protocol for all suspect LBPs.

Step 3 - Performance of quality-assured XRF testing of all accessible and suspect surface coatings that are located both on interior and exterior areas of subject buildings.

Step 4 - Preparation and submission of this report which includes:

- a. Tables of all tested homogeneous surfaces coated with suspected LBP;
- b. Hazard/Materials assessment;
- c. Conclusions and recommendations; and



d. Results of field tests.

2.3 INSPECTION AND TESTING METHODS

2.31 Inspection

The Lead-Based Paint (LBP) inspection process consists of a complete visual inspection of both interior and exterior accessible building surfaces for the presence of paints suspected of containing lead. Based on on-site observations, representative building components surfaced with homogeneous suspect paint were selected for X-Ray Fluorescence (XRF) testing.

2.32 Testing Equipment

Inspections to determine the presence of lead in paint were accomplished by using a MAP Spectrum Analyzer (XRF) manufactured by Scitec Corporation. Calibration checks using ANSI standard (paint films and painted wood block with known lead quantities) were taken at regular intervals for Quality Assurance. The MAP XRF Spectrum Analyzer operational specifications are listed in Appendix B.

2.4 SUMMARY OF FINDINGS

As a result of this inspection, the following building components found interior or exterior to the Commissary Store (Bldg. G-1, G-677, G-678) were identified to be surfaced with paint that contains lead in excess of the standards set by the Lead-Based Paint Poison Prevention Act, Section 302, and Department of Housing and Urban Development (HUD) Guidelines for Hazard Identification and Abatement in Public and Indian Housing revised September 1990 and May 1991.

Commissary Store (Bldg. G-1, G-677, G-678)

Building G-1

- |           |  |                         |
|-----------|--|-------------------------|
| Exterior: | 1. POOR CONDITION, BLACK, METAL, COLUMN        | 2.9 mg/cm <sup>2</sup>  |
|           | 2. POOR CONDITION, YELLOW, CONC., LOADING DOCK | 11.0 mg/cm <sup>2</sup> |
| Interior: | 3. POOR CONDITION, YELLOW, CONCRETE, STRIPING  | 1.7 mg/cm <sup>2</sup>  |
|           | 4. POOR CONDITION, BLUE, CONCRETE, WALL        | 1.7 mg/cm <sup>2</sup>  |
|           | 5. POOR CONDITION, RED, CONCRETE, LOADING DOCK | 11.2 mg/cm <sup>2</sup> |
|           | 6. POOR CONDITION, GREEN, METAL, CONVEYOR BELT | 1.7 mg/cm <sup>2</sup>  |
|           |  | (TEST)                  |

*How much?*  
*XRF?*

Building G-677

Exterior: NONE

Interior: NONE

Building G-678

Exterior: 7. POOR CONDITION, WHITE, WOOD, FASCIA 3.0 mg/cm<sup>2</sup>

Interior: NONE

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in the Commissary Store (Bldg. G-1, G-677, G-678), code 468, Public Works Center, NAS Pensacola provides the following conclusions and recommendations.

1. Lead-based paint was found to be present as a result of this inspection in the Commissary Store (Bldg. G-1, G-677, G-678) as listed in section 2.4. All data collected with assay numbers, locations, paint conditions, substrates, components, and associated results (where conclusive) are listed in APPENDIX C (XRF Data Sheets).
2. Sample values greater than 1.6 mg/cm<sup>2</sup> on a screen setting (1.3 mg/cm<sup>2</sup> on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm<sup>2</sup> on a screen setting (1.3 mg/cm<sup>2</sup> on a test setting) were considered inconclusive due to the operating parameters of the MAP Spectrum Analyzer (refer to operating specifications in APPENDIX B). Paint chip sampling and lab analyses is recommended for those assays found to be inconclusive.
3. Lead-based-paint abatement strategies (paint removal, or LBP painted component removal) should be scheduled when building undergoes renovation or demolition.
4. Those building components containing LBP assessed as in good condition may be managed in-place (encapsulation or enclosure). Removal is recommended if LBP components are disturbed during renovations or demolition.



Poor ?

3.0 LEAD IN SOIL. This narrative addresses the sampling, findings, conclusions, and lab analysis performed by Code 468, NPWC Pensacola pertaining to soil sampling to determine level (if any) of lead contamination. This effort focused on soil around foundations of subject



buildings and associated grounds.

3.1 All soil sampling was performed by EPA trained and certified LBP inspectors.

3.2 Federal standards have not been set for lead in soil. Although a standard soil lead action level does not exist, most authorities agree that residential soil lead levels should not exceed 500 parts per million (ppm).

<b>SAMPLE #/ LOCATION</b>	<b>PERCENT SOIL EXPOSED</b>	<b>RESULTS OF ANALYSES (PPM)</b>
<b>Commissary Store (Bldg. G-1, G-677, G-678)</b>		
KW045/ BACKGROUND	90%	390 mg/kg (ppm)
KW046/ EASTSIDE (SIMONTON STREET)	90%	190 mg/kg (ppm)
KW047/ NORTHSIDE (VIRGINIA STREET)	90%	190 mg/kg (ppm)

\* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D

**APPENDIX A  
LAB ANALYSES OF ASBESTOS  
SAMPLES**



Departmental Approval

Accession: 505044  
Client: US NAVY PUBLIC WORKS CENTER  
Project Number: 1026002  
Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE  
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

Austin M. Crow

Date: 5 MAY 95

Analyzed by: Augusta Y. Wlosick  
\_\_\_\_\_  
\_\_\_\_\_

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	27-MAR-95 N/S	03-MAY-95	C001
002	27-MAR-95 N/S	03-MAY-95	C001
003	27-MAR-95 N/S	03-MAY-95	C001
004	27-MAR-95 N/S		C002
005	27-MAR-95 N/S	03-MAY-95	C002

Components	Laboratory Id: 001	002	003	004	005
CHRYBOTILE ASBESTOS (%)	5		2		
TOTAL FIBROUS ASBESTOS (%)	5	ND	2		ND
TILE COMPONENTS (%)	95				
MASTIC (%)		100	98		100
UNIFORMITY	U	U	U		U
SAMPLE COLOR.	T	Y	B		Y

Remarks:

004 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	27-MAR-95	N/S	C002
007	27-MAR-95	N/S	C003
008	27-MAR-95	N/S	C003
009	27-MAR-95	N/S	C003
010	27-MAR-95	N/S	C004

Components	Laboratory Id: 006	007	008	009	010
CHRYBOTILE ASBESTOS (%)					10
TOTAL FIBROUS ASBESTOS (%)			ND		10
MASTIC (%)			100		
TILE COMPONENTS (%)					90

UNIFORMITY	U			U
SAMPLE COLOR.	Y			B
SAMPLE COLOR..				GR
SAMPLE COLOR...				W
SAMPLE COLOR....				S

Remarks:

006 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 007 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 009 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	27-MAR-95 N/S	03-MAY-95	C004
012	27-MAR-95 N/S		C005
013	27-MAR-95 N/S	03-MAY-95	C005
014	27-MAR-95 N/S		C006
015	27-MAR-95 N/S	03-MAY-95	C006

Components	Laboratory Id: 011	012	013	014	015
CHRYBOTILE ASBESTOS (%)	<1		<1		<1
TOTAL FIBROUS ASBESTOS (%)	<1		<1		<1
MASTIC (%)	99		99		99
UNIFORMITY	U		U		U
SAMPLE COLOR.	B		B		B

Remarks:

012 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 014 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
016	27-MAR-95 N/S	03-MAY-95	C007
017	27-MAR-95 N/S	03-MAY-95	C008
018	27-MAR-95 N/S	03-MAY-95	C009
019	27-MAR-95 N/S	03-MAY-95	C010
020	27-MAR-95 N/S		C011

Components	Laboratory Id: 016	017	018	019	020
CHRYSTOLE ASBESTOS (%)				5	
TOTAL FIBROUS ASBESTOS (%)	ND	ND	ND	5	

RUBBEROID (%)	100	100	100		
PLASTIC SHEET (%)				2	
TILE COMPONENTS (%)				93	

UNIFORMITY	U	U	U	L	
SAMPLE COLOR.	B	B	B	BG	
SAMPLE COLOR..				Y	
SAMPLE COLOR...				BG	

Remarks:

019 ASBESTOS IS LOCATED IN THE BEIGE FLOOR TILE COMPONENTS BENEATH THE SURFACE COVERING OF BEIGE AND YELLOW PLASTIC.  
 020 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
021	27-MAR-95	N/S	C012
022	27-MAR-95	N/S	C013
023	27-MAR-95	N/S	C013
024	27-MAR-95	N/S	C014
025	27-MAR-95	N/S	C014

Components	Laboratory Id: 021	022	023	024	025
CHRYBOTILE ASBESTOS (%)		10	20		
TREMOLITE ASBESTOS (%)		1			
TOTAL FIBROUS ASBESTOS (%)		11	20		

TILE COMPONENTS (%)	89	
MASTIC (%)		80

UNIFORMITY	U	U
SAMPLE COLOR.	BG	B
SAMPLE COLOR..	BR	
SAMPLE COLOR...	S	

Remarks:

021 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 022 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.  
 024 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 025 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
026	27-MAR-95	N/S	C015
027	27-MAR-95	N/S	C015
028	27-MAR-95	N/S	C016
029	27-MAR-95	N/S	C016
030	27-MAR-95	N/S	C017

Components Laboratory Id: 026 027 028 029 030

TOTAL FIBROUS ASBESTOS (%)

Remarks:

026 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 027 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 028 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 029 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 030 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
031	27-MAR-95 N/S		C017
032	27-MAR-95 N/S	03-MAY-95	C018
033	27-MAR-95 N/S		C019
034	27-MAR-95 N/S		C020
035	27-MAR-95 N/S	03-MAY-95	C021

Components	Laboratory Id: 031	032	033	034	035
CHRYSOTILE ASBESTOS (%)		2			3
TREMOLITE ASBESTOS (%)		1			
TOTAL FIBROUS ASBESTOS (%)		3			3

NONFIBROUS TREMOLITE (%)		<1			
TILE COMPONENTS (%)		96			97

UNIFORMITY		U			U
SAMPLE COLOR.		G			I
SAMPLE COLOR..					GR
SAMPLE COLOR...					S

Remarks:

031 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 032 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.  
 033 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 034 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
036	27-MAR-95 N/S		C022			
037	27-MAR-95 N/S		C023			
038	27-MAR-95 N/S	03-MAY-95	C024			
039	27-MAR-95 N/S	03-MAY-95	C024			
040	27-MAR-95 N/S		C025			
Components		Laboratory Id: 036	037	038	039	040
CHRYSOTILE ASBESTOS (%)				2		
TREMOLITE ASBESTOS (%)				<1		
TOTAL FIBROUS ASBESTOS (%)				<3	ND	
NONFIBROUS TREMOLITE (%)				<1		
TILE COMPONENTS (%)				96		
MASTIC (%)					100	
UNIFORMITY				U		U
SAMPLE COLOR.				GR		B
SAMPLE COLOR..				I		
SAMPLE COLOR...				S		

Remarks:

036 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 037 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 038 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.  
 040 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
 Client: US NAVY PUBLIC WORKS CENTER  
 Project Number: 1026002  
 Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
 Project Location: KEY WEST, FL  
 Test: TOTAL FIBROUS ASBESTOS (%)  
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
041	27-MAR-95 N/S	03-MAY-95	C025
042	27-MAR-95 N/S		C026
043	27-MAR-95 N/S	03-MAY-95	C026
044	27-MAR-95 N/S	03-MAY-95	C027
045	27-MAR-95 N/S		C028

Components	Laboratory Id: 041	042	043	044	045
CHRYBOTILE ASBESTOS (%)				5	
TOTAL FIBROUS ASBESTOS (%)	ND		ND	5	
CELLULOSE FIBERS (%)				<1	
MASTIC (%)		100	100		
MORTAR/PLASTER (%)				52	
PAINT (%)				<1	
PERLITE (%)				40	
WOOD (%)				<1	
UNIFORMITY	U		U	L	
SAMPLE COLOR.	B		B	W	
SAMPLE COLOR..				BG	

Remarks:

042 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
 044 ASBESTOS IS LOCATED IN THE WHITE SPRAY ON MATERIAL.  
 045 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 505044  
Client: US NAVY PUBLIC WORKS CENTER  
Project Number: 1026002  
Project Name: U.S. NAVAL AIR STATION, OLD COMMISSARY  
Project Location: KEY WEST, FL  
Test: TOTAL FIBROUS ASBESTOS (%)  
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
046	27-MAR-95	N/S	C029
047	27-MAR-95	N/S	C030
048	27-MAR-95	N/S	C031

Components Laboratory Id: 046 047 048

TOTAL FIBROUS ASBESTOS (%)

Remarks:

046 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
047 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.  
048 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

## SUPPLEMENTARY INFORMATION

SAMPLE TYPE: BULK

Analyses are performed using polarized light microscopy and dispersion staining according to the U.S. EPA's Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA-600/M4-82-020, 1982). Volumetric percentages are determined by visual estimation. Sample colors determined by the analyst may be different from those observed by the sample collector at the collection site, due to differences in lighting.

## LEGEND:

N/S = Not Submitted ND = Not Detected  
U = Uniform L = Layered N = Nonuniform nonlayered  
B = Black BG = Beige BL = Blue BR = Brown CO = Copper G = Gray  
GL = Gold GR = Green I = Ivory MG = Magenta MR = Maroon MV = Mauve  
O = Orange OL = Olive P = Pink PR = Purple R = Red SL = Silver  
T = Tan TP = Taupe V = Violet W = White Y = Yellow C = Clear  
OP = Opaque TR = Translucent S = Streaked SP = Spotted M = Multi-colored  
MO = Mottled UA = Unable to Ascertain D = Dirty or discolored  
(Note: "L" preceding a color abbreviation indicates "Light", "D" indicates "Dark". For example, LG = Light Gray, DBR = Dark Brown. If two color abbreviations are combined, the first is to be read as the adjective form. For example, RBR = Reddish Brown, BLGR = Bluish Green, YT = Yellowish Tan.)

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**APPENDIX B**  
**OPERATIONAL SPECIFICATIONS**

## MAP XRF SPECTRUM ANALYZER OPERATIONAL SPECIFICATIONS

1. Reads from 0.0 to 200.0 mg/square centimeter in increments of 0.1 mg/square centimeter. Inconclusive ranges are:
  - +/- 0.6 for screen (15+ seconds sample time)
  - +/- 0.3 for test (60+ seconds sample time)
  - +/- 0.15 for confirmation (240+ seconds sample time)
2. The software analyzes the complete signal spectrum to determine substrate correction factor.
3. Operating temperature: 20 degrees F to 100 degrees F
4. Radioactive Source: 40 millicuries Cobalt -57 isotope
5. Weight: console (9 lb) scanner (3.5 lb)

**APPENDIX C**  
**XRF DATA SHEETS**

BUILDING G-1

XRF DATA SHEET

DATE:03/27/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm <sup>2</sup>
=====	=====	=====	=====	=====	=====	=====	=====	=====
17	CONCRETE	POOR	2ND DECK BAY	FLOOR	STRIPING	YELLOW	SCREEN	1.7
28	CONCRETE	POOR	1ST DECK CAGE	1	WALL	BLUE	SCREEN	1.7
32	CONCRETE	POOR	1ST DECK	1	LOADING DOCK	RED	SCREEN	11.2
34	METAL	POOR	1ST DECK	1	CONVEYOR BELT	GREEN	TEST	1.7
55	METAL	POOR	EXTERIOR	1	COLUMN	BLACK	SCREEN	2.9
62	CONCRETE	POOR	EXTERIOR	1	LOADING DOCK	YELLOW	SCREEN	11.0

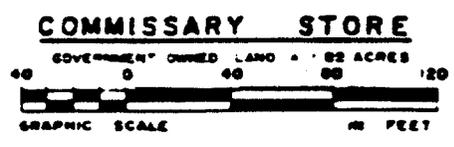
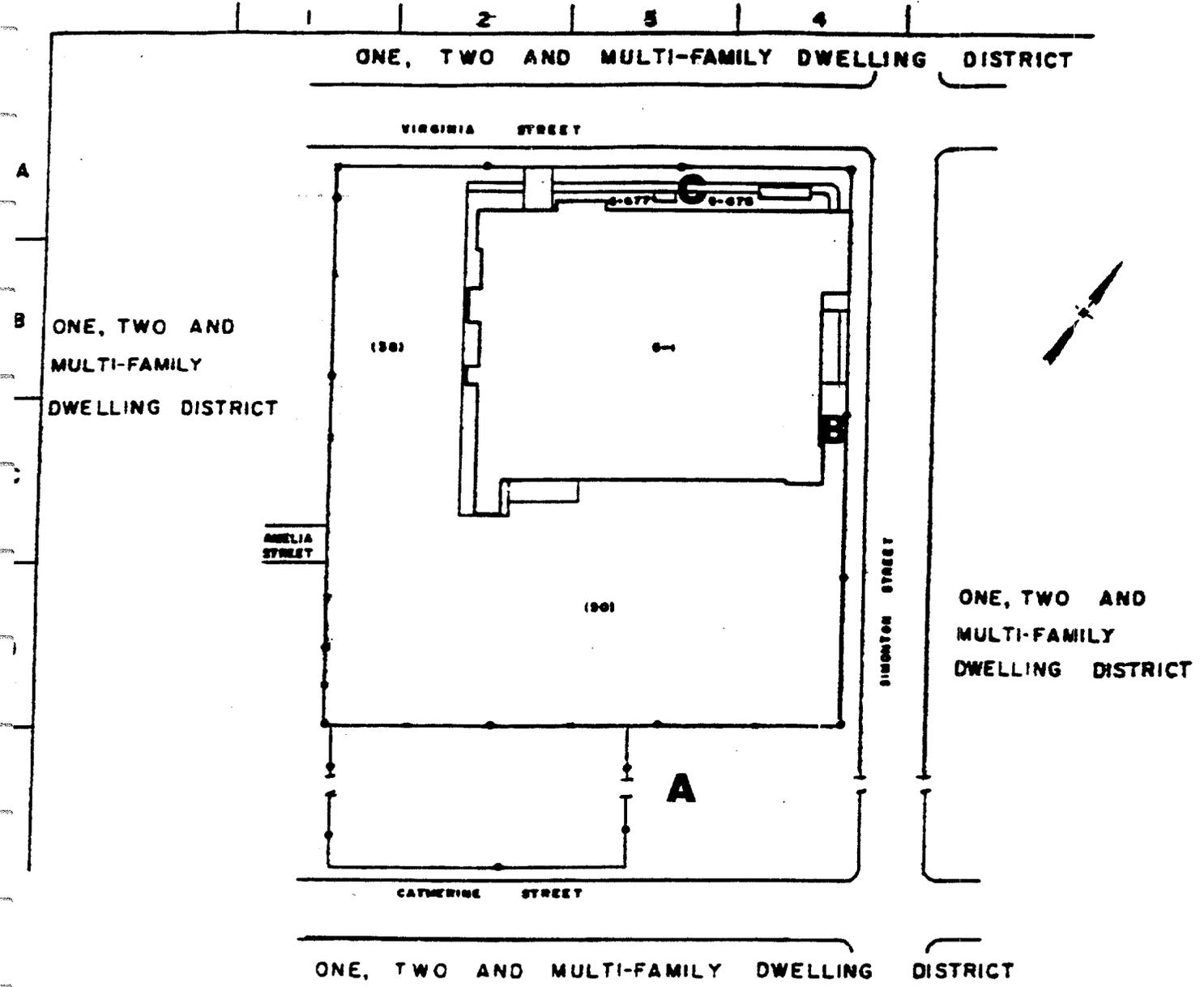
BUILDING G-678

XRF DATA SHEET

DATE:03/27/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm <sup>2</sup>
=====	=====	=====	=====	=====	=====	=====	=====	=====
67	WOOD	POOR	EXTERIOR	3	FASCIA	WHITE	SCREEN	3.0

**APPENDIX D**  
**LAB ANALYSES OF SOIL**  
**SAMPLES**



COMMISSARY STORE SOIL RESULTS

<u>SAMPLE #</u>	<u>SOIL EXPOSED(%)</u>	<u>RESULTS (ppm)</u>
A. KW045	90%	390 mg/kg (ppm)
B. KW046	90%	190 mg/kg (ppm)
C. KW047	90%	190 mg/kg (ppm)

# Navy Public Works Center Environmental Laboratory

Bldg 3691, Code 920  
NAS Pensacola, Fl. 32508  
Phone (904) 452-4728/3642  
Autovon 922-4728/3642

Requester: WWHP/NPWC Inspections  
Address: Bldg 1659, code 468  
NAS Pensacola, Fl 32508  
Phone #: 452-4760  
Contact: M. Ladner

# Laboratory Report

Lead (Pb) in Soil

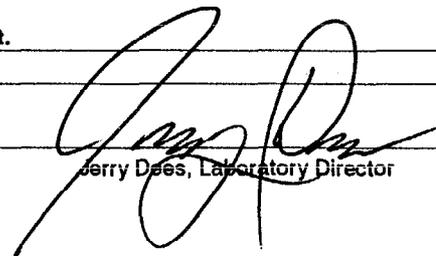
Lab ID Number: 9505020 F  
Sample Date: 24 Mar & 18 Apr 95  
Received Date: 28 Apr 95  
Sample Site: NAS Key West  
Job Order #: 160 4002

Sample ID#	Lab	1- 52478	2- 52479	3- 52480	4- 52481	Analyst(s):						
Sample Name	Requester	KW041 E. Rubble Truman	KW042 Backgate to Isl West	KW043 Isl West to Hydro 1	KW044 Hydro to Tower	Brian Nelson						
Collector Name		DJ/LG	DJ/LG	DJ/LG	DJ/LG							
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 5 May 95						
	Comp stop											
	Grab	18 Apr 95 @	18 Apr 95 @	18 Apr 95 @	18 Apr 95 @							
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab							
Sample Matrix		Soil	Soil	Soil	Soil							
PARAMETER		ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:	METHOD #	1- 52478	units Limit	2- 52479	units Limit	3- 52480	units Limit	4- 52481	units Limit			
Lead(Pb)	EPA 6010A	X	300 mg/kg 10 X	60 mg/kg 10 X	90 mg/kg 10 X	130 mg/kg 10 X						None

Sample ID#	Lab	5- 52482	6- 52483	7- 52484	8-	Analyst(s):						
Sample Name	Requester	KW045 Comm. Back.	KW046 Found 1 Comm.	KW047 Found 2 Comm.		Brian Nelson						
Collector Name		DJ/LG	DJ/LG	DJ/LG								
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 5 May 95						
	Comp stop											
	Grab	24 Mar 95 @	24 Mar 95 @	24 Mar 95 @								
Sample Type	Comp/Grab	Grab	Grab	Grab								
Sample Matrix		Soil	Soil	Soil								
PARAMETER		ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:	METHOD #	5- 52482	units Limit	6- 52483	units Limit	7- 52484	units Limit	8-	units Limit			
Lead(Pb)	EPA 6010A	X	390 mg/kg 10 X	190 mg/kg 10 X	190 mg/kg 10 X							None

Comments: mg/kg = milligrams per kilogram (ppm). BDL = Below Detection Limit.

Approved by:



Jerry Dees, Laboratory Director

Date/Time: 08-May-95 14:07