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NAS KEY WEST
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LEAD AND ASBESTOS SURVEY OF TRUMAN PIER NAS KEY WEST FL
5/22/1995
NAVY PUBLIC WORKS CENTER

0041

LEAD AND ASBESTOS SURVEY
OF
TRUMAN PIER
NVSTA KEY WEST, FLORIDA

INSPECTION PERFORMED BY
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

89/238
not analyzed

MAY 22, 1995

TABLE OF CONTENTS

TRUMAN PIER

BUILDING

84
102 ✓
103 ✓
104 ✓
112 ✓
113 ✓
149
189 ✓
223 ✓
261
284, 285 286
795
1276 ✓
1374
4080
MISCELLANEOUS

DRAWING

PW DWG# P-5576
PW DWG# P-2631
BYD DWG# 154071
BYD DWG# 154099
NAVFAC DWG 5179313
NAVFAC DWG 5152755
NAVFAC DWG 5085492
NO DRAWING
NAVFAC DWG 5151199
NAVFAC DWG 5165857
NAVFAC DWG 5066873
PW DWG# S1041
PW DWG# P3300
NO DRAWING
NAVFAC DWG 5151193
NAVFAC DWG 5083586

DESCRIPTION

CERAMIC SHOP
TORPEDO STORAGE
POWER PLANT
BATTERY STORAGE
TRAINING BLDG
TRAINING BLDG
FIREMAN'S BLDG
LIQUOR STORE
EODMU FOUR FACILITIES
STORAGE DRMO
STORAGE DRMO
SUPPLY BLDG
SERVICE STATION
UNKNOWN USE
SECURITY BLDG
PIER AREA

*Where are
drawings?*



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 84**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 84			
HOMO A/ 12"x12" BEIGE/BROWN FLOOR TILE	STORE (TOP LAYER) AND RESTROOMS (BOTTOM LAYER)	2,000 ft ²	GOOD NON HIGH
HOMO B/ FLOOR TILE	MIDDLE LAYER	2,000 ft ²	GOOD NON LOW
HOMO D/FLOOR TILE	BOTTOM LAYER	2,000 ft ²	GOOD NON LOW
HOMO E/ TRANSITE SIDING ASSUMED	EXTERIOR	5000 ft ²	POOR NON HIGH
HOMO F/ BUILT-UP ROOF ASSUMED	ROOF OVER RESTROOMS	100 ft ²	GOOD NON HIGH

* 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

358

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.
- (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.

1.4.4 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 building 84 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.

Building 84

Exterior: 1. POOR CONDITION, WHITE, TRANSITE, WALL 3.2 mg/cm²

2. POOR CONDITION, WHITE, WOOD, SOFFIT

6.8 mg/cm²

Interior: NONE

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 84, 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 building 84 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 84		
#2015S/SOUTHSIDE	10%	1200 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Departmental Approval

Accession: 504298
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 84
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

Date: _____
Analyzed by: *Suzanne Y. Wlosiak*



Accession: 504298
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 84
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A284001
002	04-APR-95 N/S		A284002
003	04-APR-95 N/S		A284003
004	04-APR-95 N/S	26-APR-95	B284004
005	04-APR-95 N/S		B284005

Components	Laboratory Id: 001	002	003	004	005
CHRYBOTILE ASBESTOS (%)	5			25	
TREMOLITE ASBESTOS (%)	<1			2	
TOTAL FIBROUS ASBESTOS (%)	<6			27	

NONFIBROUS TREMOLITE (%)	<1			<1	
WOLLASTONITE (%)	20				
TILE COMPONENTS (%)	73			72	

UNIFORMITY	U			U	
SAMPLE COLOR.	BG			B	
SAMPLE COLOR..	T			W	
SAMPLE COLOR...	S			S	

Remarks:

001 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 002 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 003 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 004 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 005 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504298
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 84
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S		B284006
007	04-APR-95 N/S	26-APR-95	C284007
008	04-APR-95 N/S	26-APR-95	C284008
009	04-APR-95 N/S	26-APR-95	C284009
010	04-APR-95 N/S	26-APR-95	D284010

Components	Laboratory Id: 006	007	008	009	010
CHRYBOTILE ASBESTOS (%)					10
TREMOLITE ASBESTOS (%)					<1
TOTAL FIBROUS ASBESTOS (%)		ND	ND	ND	<11

CELLULOSE FIBERS (%)			<1	<1	
TILE COMPONENTS (%)		100	99	99	89

UNIFORMITY	U	U	U	U	U
SAMPLE COLOR.	BG	BG	BG	BG	T
SAMPLE COLOR..	BL	BL	BL	BL	
SAMPLE COLOR...	P	P	P	P	
SAMPLE COLOR....	S	S	S	S	

Remarks:

006 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 010 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.

Accession: 504298
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 84
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	04-APR-95	N/S	D284011
012	04-APR-95	N/S	D284012
013	04-APR-95	N/S	E284013
014	04-APR-95	N/S	E284014
015	04-APR-95	N/S	E284015

Components	Laboratory Id: 011	012	013	014	015
TOTAL FIBROUS ASBESTOS (%)			ND	ND	ND
CELLULOSE FIBERS (%)			70	70	70
TAR (%)			30	30	30
UNIFORMITY			L	L	L
SAMPLE COLOR.			BR	BR	BR
SAMPLE COLOR..			B	B	B
SAMPLE COLOR...			BR	BR	BR

Remarks:

011 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 012 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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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 84

XRF DATA SHEET

DATE:03/24/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
4	TRANSITE	POOR	EXTERIOR	1	WALL	WHITE	SCREEN	3.2
6	WOOD	POOR	EXTERIOR	1	SOFFIT	WHITE	SCREEN	6.8



APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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

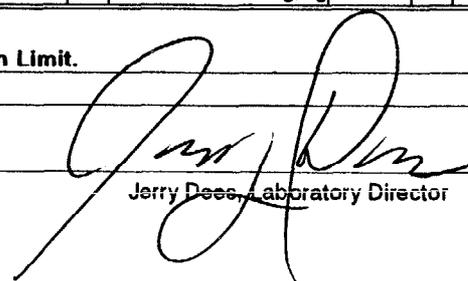
Lab ID Number: 9505016 B
 Sample Date: 30 Mar 95
 Received Date: 7 Apr 95
 Sample Site: NAS Key West
 Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):								
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		1- 51981			2- 51982			3- 51983			4- 51984			
Lead(Pb)	EPA 6010A	X	490 mg/kg	10 X	250 mg/kg	10 X	12000 mg/kg	100 X	140 mg/kg	10			None	

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):								
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		5- 51985			6- 51986			7- 51987			8- 51988			
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	170 mg/kg	10 X	1200 mg/kg	10 X	30 mg/kg	10			None	

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

Approved by:



Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 102**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 102			
HOMO A/ 9"x9" BLACK FLOOR TILE	TOP LAYER IN DOWNSTAIRS HEAD	255 ft ²	POOR NON HIGH
HOMO B/ 12"x12" GREEN FLOOR TILE	SECOND LAYER IN DOWNSTAIRS HEAD	255 ft ²	POOR NON LOW
HOMO C/ 9"x9" BROWN FLOOR TILE	UPSTAIRS HEAD	84 ft ²	POOR NON HIGH
HOMO D/ 9"x9" RED FLOOR TILE	BUNK ROOM	500 ft ²	POOR NON HIGH
HOMO E/ 9"x9" BLACK FLOOR TILE	LOUNGE & STORAGE AREA	165 ft ²	POOR NON HIGH
HOMO F/ 9"x9" BLACK FLOOR TILE	1ST LAYER ORDNANCE OFFICE	365 ft ²	POOR NON HIGH
HOMO G/ 12"x12" BLACK FLOOR TILE	2ND LAYER ORDNANCE OFFICE	365 ft ²	POOR NON LOW

only tile sampled?

HOMO H/ 9"x9" GREEN FLOOR TILE	3RD LAYER ORDNANCE OFFICE	365 ft ²	POOR NON LOW
HOMO I/ 9"x9" BEIGE FLOOR TILE	ROOM ABOVE ORDNANCE OFFICE	365 ft ²	POOR NON LOW
HOMO K/ BUILT-UP ROOF ASSUMED	ROOF	11,000 ft ²	GOOD NON LOW
HOMO L/ ELECTRICAL WIRING ASSUMED	INTERIOR	AMOUNT UNKNOWN	GOOD NON LOW

* 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.
- (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.

1.4.4 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 building 102 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.

Building 102

Exterior:	1. POOR CONDITION, BLUE, CONCRETE, CURB	4.9 mg/cm ²
Interior:	2. POOR CONDITION, GREEN, WOOD, DOOR JAMB	11.7 mg/cm ²
	3. POOR CONDITION, RED, WOOD, WALL	6.7 mg/cm ²
	4. POOR CONDITION, WHITE, WOOD, WALL	6.9 mg/cm ²
	5. POOR CONDITION, YELLOW, WOOD, STAIR RISER	2.4 mg/cm ²
	6. POOR CONDITION, WHITE, WOOD, WINDOW	11.0 mg/cm ²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 102, 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 building 102 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on

a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 102		
#2009S/SOUTH SIDE	10%	490 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D

APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES



Departmental Approval

Accession: 504299
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 102
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: 4 MAY 95

Analyzed by: Suzanne G. W. [Signature]

Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	25-APR-95	A210201
002	04-APR-95 N/S	25-APR-95	A210201
003	04-APR-95 N/S		A210202
004	04-APR-95 N/S	25-APR-95	A210202
005	04-APR-95 N/S		A210203

Components	Laboratory Id: 001	002	003	004	005
CHRYBOTILE ASBESTOS (%)	5				
TOTAL FIBROUS ASBESTOS (%)	5	ND		ND	

TILE COMPONENTS (%)	95				
MASTIC (%)		100		100	

UNIFORMITY	U	U	U
SAMPLE COLOR.	BR	T	T
SAMPLE COLOR..	O		
SAMPLE COLOR...	W		
SAMPLE COLOR....	S		

Remarks:

003 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 005 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	25-APR-95	A210203
007	04-APR-95 N/S	25-APR-95	B210204
008	04-APR-95 N/S	25-APR-95	B210204
009	04-APR-95 N/S		B210205
010	04-APR-95 N/S	25-APR-95	B210205

Components	Laboratory Id: 006	007	008	009	010
CHRYBOTILE ASBESTOS (%)		20			<1
TOTAL FIBROUS ASBESTOS (%)	ND	20	ND		<1

CELLULOSE FIBERS (%)			<1		
MASTIC (%)	100		99		99
TILE COMPONENTS (%)		80			

UNIFORMITY	U	U	U	U
SAMPLE COLOR.	T	GR	B	B

Remarks:

009 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	04-APR-95 N/S		B210206
012	04-APR-95 N/S	25-APR-95	B210206
013	04-APR-95 N/S	25-APR-95	C210207
014	04-APR-95 N/S	25-APR-95	C210207
015	04-APR-95 N/S		C210208

Components	Laboratory Id: 011	012	013	014	015
CHRYBOTILE ASBESTOS (%)		<1	15		
TOTAL FIBROUS ASBESTOS (%)		<1	15	ND	

MASTIC (%)	99			100	
TILE COMPONENTS (%)			85		

UNIFORMITY	U	U	U
SAMPLE COLOR.	B	BR	T
SAMPLE COLOR..		I	
SAMPLE COLOR...		S	

Remarks:

011 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 015 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
016	04-APR-95 N/S	25-APR-95	C210208
017	04-APR-95 N/S		C210209
018	04-APR-95 N/S	25-APR-95	C210209
019	04-APR-95 N/S	25-APR-95	D210210
020	04-APR-95 N/S	25-APR-95	D210210

Components	Laboratory Id: 016	017	018	019	020
CHRYBOTILE ASBESTOS (%)				8	
TOTAL FIBROUS ASBESTOS (%)	ND		ND	8	ND
MASTIC (%)	100		100		100
TILE COMPONENTS (%)				92	
UNIFORMITY	U		U	U	U
SAMPLE COLOR.	T		T	R	T

Remarks:

017 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
021	04-APR-95	N/S	D210211
022	04-APR-95	N/S	D210211
023	04-APR-95	N/S	D210212
024	04-APR-95	N/S	D210212
025	04-APR-95	N/S	E210213

Components	Laboratory Id: 021	022	023	024	025
CHRYSTOLE ASBESTOS (%)					5
TREMOLITE ASBESTOS (%)					<1
TOTAL FIBROUS ASBESTOS (%)		ND		ND	<6
MASTIC (%)		100		100	
TILE COMPONENTS (%)					94
UNIFORMITY		U		U	U
SAMPLE COLOR.		T		T	B
SAMPLE COLOR..					W
SAMPLE COLOR...					S

Remarks:

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

Accession: 504299
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 102
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
026	04-APR-95 N/S	25-APR-95	E210213
027	04-APR-95 N/S		E210214
028	04-APR-95 N/S		E210214
029	04-APR-95 N/S		E210215
030	04-APR-95 N/S		E210215

Components	Laboratory Id: 026	027	028	029	030
CHRYBOTILE ASBESTOS (%)	20				
TOTAL FIBROUS ASBESTOS (%)	20				

MASTIC (%) 80

UNIFORMITY U
SAMPLE COLOR. BR

Remarks:

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: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
031	04-APR-95 N/S	25-APR-95	F210216
032	04-APR-95 N/S	25-APR-95	F210216
033	04-APR-95 N/S		F210217
034	04-APR-95 N/S	25-APR-95	F210217
035	04-APR-95 N/S		F210218

Components	Laboratory Id: 031	032	033	034	035
CHRYBOTILE ASBESTOS (%)	2			30	
TOTAL FIBROUS ASBESTOS (%)	2	ND		30	
CELLULOSE FIBERS (%)				2	
TILE COMPONENTS (%)	98				
MASTIC (%)				68	

UNIFORMITY	U	U
SAMPLE COLOR.	BR	B
SAMPLE COLOR..	O	
SAMPLE COLOR...	W	
SAMPLE COLOR....	S	

Remarks:

032 INSUFFICIENT SAMPLE FOR ANALYSIS.
 033 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 035 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
036	04-APR-95 N/S		F210218
037	04-APR-95 N/S	25-APR-95	G210219
038	04-APR-95 N/S	25-APR-95	G210219
039	04-APR-95 N/S	25-APR-95	G210219
040	04-APR-95 N/S		G210220

Components	Laboratory Id: 036	037	038	039	040
CHRYBOTILE ASBESTOS (%)		2	3	25	
TOTAL FIBROUS ASBESTOS (%)		2	3	25	

CELLULOSE FIBERS (%)			5	
MASTIC (%)		98		75
TILE COMPONENTS (%)			92	

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

Remarks:

036 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 040 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504299
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 102
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
041	04-APR-95	N/S	G210220
042	04-APR-95	N/S	G210220
043	04-APR-95	N/S	G210221
044	04-APR-95	N/S	G210221
045	04-APR-95	N/S	G210221

Components Laboratory Id: 041 042 043 044 045

TOTAL FIBROUS ASBESTOS (%)

Remarks:

041 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
042 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
043 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
044 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
045 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
046	04-APR-95 N/S	25-APR-95	H210222
047	04-APR-95 N/S	25-APR-95	H210222
048	04-APR-95 N/S		H210223
049	04-APR-95 N/S	25-APR-95	H210223
050	04-APR-95 N/S		H210224

Components	Laboratory Id: 046	047	048	049	050
CHRYSOTILE ASBESTOS (%)	20				
TOTAL FIBROUS ASBESTOS (%)	20	ND		ND	
CELLULOSE FIBERS (%)		<1			
TILE COMPONENTS (%)	80				
MASTIC (%)		99		100	
UNIFORMITY	U	U		U	
SAMPLE COLOR.	GR	B		B	

Remarks:

048 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 050 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id					
051	04-APR-95 N/S	25-APR-95	H210224					
052	04-APR-95 N/S	25-APR-95	I210225					
053	04-APR-95 N/S	25-APR-95	I210225					
054	04-APR-95 N/S		I210226					
055	04-APR-95 N/S	25-APR-95	I210226					
Components				Laboratory Id: 051	052	053	054	055
CHRYSOTILE ASBESTOS (%)				<1	15			
TREMOLITE ASBESTOS (%)					<1			
TOTAL FIBROUS ASBESTOS (%)				<1	<16	ND		ND
MASTIC (%)				99		100		100
NONFIBROUS TREMOLITE (%)					<1			
TILE COMPONENTS (%)					83			
UNIFORMITY				U	U	U		U
SAMPLE COLOR.				B	T	T		T
SAMPLE COLOR..					I			
SAMPLE COLOR...					S			

Remarks:

054 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504299
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 102
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id					
056	04-APR-95	N/S	I210227					
057	04-APR-95	N/S	25-APR-95	I210227				
058	04-APR-95	N/S	25-APR-95	J210228				
059	04-APR-95	N/S	25-APR-95	J210229				
060	04-APR-95	N/S	25-APR-95	J210230				
Components				Laboratory Id: 056	057	058	059	060
TREMOLITE ASBESTOS (%)						<1	<1	<1
TOTAL FIBROUS ASBESTOS (%)					ND	<1	<1	<1
MASTIC (%)					100			
RUBBEROID (%)						99	99	99
UNIFORMITY					U	U	U	U
SAMPLE COLOR.					T	LBL	LBL	LBL
SAMPLE COLOR..						W	W	W
SAMPLE COLOR...						S	S	S

Remarks:

056 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 058 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 059 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 060 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.



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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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 102

XRF DATA SHEET

DATE:03/25/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
1	WOOD	POOR	RESTROOM		4 DOOR JAMB	GREEN	SCREEN	11.7
4	WOOD	POOR	INTERIOR BAY		4 WALL	RED	SCREEN	6.7
8	WOOD	POOR	OFFICE BY RESTROO		1 WALL	WHITE	SCREEN	6.9
10	WOOD	POOR	STAIRS NORTH WALL		4 STAIR RISER	YELLOW	TEST	2.4
20	CONCRETE	POOR	EXTERIOR		3 CURB	BLUE	SCREEN	4.9
21	WOOD	POOR	INTERIOR		2 WINDOW	WHITE	SCREEN	11.0



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

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: 9505016 B
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):								
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	1- 51981	units	Limit	2- 51982	units	Limit	3- 51983	units	Limit	4- 51984	units	Limit	
Lead(Pb)	EPA 6010A	X	490 mg/kg	10 X	250 mg/kg	10 X	12000 mg/kg	100 X	140 mg/kg	10	None			

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):								
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	5- 51985	units	Limit	6- 51986	units	Limit	7- 51987	units	Limit	8- 51988	units	Limit	
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	170 mg/kg	10 X	1200 mg/kg	10 X	30 mg/kg	10	None			

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

Approved by: _____

Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 103**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 103			
HOMO B/ 12"x12" GREEN FLOOR TILE	OFFICE AREA	150 ft ²	POOR NON HIGH
HOMO C/ 9"x9" BEIGE FLOOR TILE	BATHROOM	150 ft ²	POOR NON HIGH
HOMO D/ 9"x9" GREEN FLOOR TILE	BATHROOM	15 ft ²	POOR NON HIGH
HOMO E/ 9"x9" BEIGE FLOOR TILE	SHOWER	15 ft ²	POOR NON HIGH
HOMO F/ ELECTRICAL WIRING ASSUMED	INTERIOR	UNKNOWN	UNKNOWN
HOMO G/ BUILT-UP ROOF ASSUMED	ROOF	9000 ft ²	GOOD NON LOW

* 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:

1358
RESTRICTED AREA

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.
- (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.

1.4.4 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:

5358
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 building 103 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.

Building 103

Exterior:	1. POOR CONDITION, WHITE, METAL, SLIDING DOOR	2.4 mg/cm ²
	2. POOR CONDITION, WHITE, CONCRETE, WALL	1.7 mg/cm ²
Interior:	3. POOR CONDITION, ORANGE, METAL, MONORAIL	1.5 mg/cm ² (TEST)
	4. POOR CONDITION, YELLOW, METAL, DRAIN PIPE	6.9 mg/cm ²
	5. POOR CONDITION, ORANGE, METAL, BOILER PIT	17.9 mg/cm ²
	6. POOR CONDITION, ORANGE, METAL, PIPE	12.9 mg/cm ²
	7. POOR CONDITION, BLUE, METAL, GENERATOR	3.7 mg/cm ²
	8. POOR CONDITION, WHITE, WOOD, DOOR	2.8 mg/cm ²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 103, 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 building 103 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 103		
#2010S/SOUTHSIDE	30%	250 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Accession: 504300
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 103
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A210301
002	04-APR-95 N/S	26-APR-95	A210302
003	04-APR-95 N/S	26-APR-95	A210303
004	04-APR-95 N/S	26-APR-95	B210304
005	04-APR-95 N/S	26-APR-95	B210304

Components	Laboratory Id: 001	002	003	004	005
CHRYBOTILE ASBESTOS (%)				2	
TOTAL FIBROUS ASBESTOS (%)	ND	ND	ND	2	ND
PLASTIC FIBERS (%)	10	10	10		
RUBBEROID (%)	90	90	90		
TILE COMPONENTS (%)				98	
MASTIC (%)					100
UNIFORMITY	L	L	L	U	U
SAMPLE COLOR.	B	B	B	GR	Y
SAMPLE COLOR..	W	W	W	W	
SAMPLE COLOR...	B	B	B	S	

Accession: 504300
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 103
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id				
006	04-APR-95	N/S	B210305				
007	04-APR-95	N/S	26-APR-95	B210305			
008	04-APR-95	N/S	B210306				
009	04-APR-95	N/S	26-APR-95	B210306			
010	04-APR-95	N/S	26-APR-95	C210307			
Components		Laboratory Id: 006		007	008	009	010
CHRYSOTILE ASBESTOS (%)							5
TOTAL FIBROUS ASBESTOS (%)				ND		ND	5
MASTIC (%)				100		100	
TILE COMPONENTS (%)							95
UNIFORMITY				U		U	U
SAMPLE COLOR.				Y		Y	LG

Remarks:

006 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 008 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504300
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 103
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	04-APR-95	N/S	26-APR-95
012	04-APR-95	N/S	26-APR-95
013	04-APR-95	N/S	26-APR-95
014	04-APR-95	N/S	26-APR-95
015	04-APR-95	N/S	26-APR-95

Components	Laboratory Id: 011	012	013	014	015
TOTAL FIBROUS ASBESTOS (%)	ND		ND		ND
MASTIC (%)	100		100		100
UNIFORMITY	U		U		U
SAMPLE COLOR.	Y		Y		Y

Remarks:

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

Accession: 504300
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 103
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
016	04-APR-95 N/S	26-APR-95	D210310
017	04-APR-95 N/S		D210311
018	04-APR-95 N/S		D210312
019	04-APR-95 N/S	26-APR-95	E210313
020	04-APR-95 N/S	26-APR-95	E210313

Components	Laboratory Id: 016	017	018	019	020
CHRYSOTILE ASBESTOS (%)	10			5	
TOTAL FIBROUS ASBESTOS (%)	10			5	ND
TILE COMPONENTS (%)	90			95	
MASTIC (%)					100

UNIFORMITY	U			U	U
SAMPLE COLOR.	GR			T	Y
SAMPLE COLOR..	W			I	
SAMPLE COLOR...	S			S	

Remarks:

017 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 018 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504300
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 103
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
021	04-APR-95 N/S		E210314
022	04-APR-95 N/S	26-APR-95	E210314
023	04-APR-95 N/S		E210315
024	04-APR-95 N/S	26-APR-95	E210315

Components	Laboratory Id: 021	022	023	024
TOTAL FIBROUS ASBESTOS (%)		ND		ND
MASTIC (%)		100		100
UNIFORMITY		U		U
SAMPLE COLOR.		Y		Y

Remarks:

021 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
023 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 103

XRF DATA SHEET

DATE:03/24/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
3	METAL	POOR	EXTERIOR		3 SLIDING DOO	WHITE	TEST	2.4
5	CONCRETE	POOR	EXTERIOR		3 WALL	WHITE	SCREEN	1.7
14	METAL	POOR	INTERIOR		3 MONORAIL	ORANGE	TEST	1.5
15	METAL	POOR	INTERIOR		3 DRAIN PIPE	YELLOW	SCREEN	6.9
16	METAL	POOR	INTERIOR	FLOOR	BOILER PIT	ORANGE	SCREEN	17.9
17	METAL	POOR	INTERIOR		4 PIPE	ORANGE	SCREEN	12.9
20	METAL	POOR	INTERIOR		4 GENERATOR	BLUE	SCREEN	3.7
27	WOOD	POOR	INTERIOR		1 DOOR	WHITE	TEST	2.8



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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

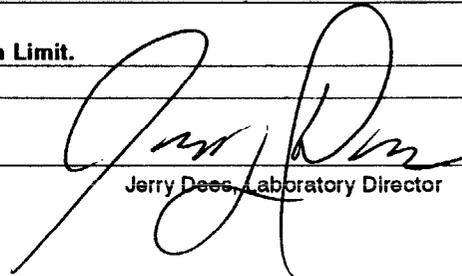
Lab ID Number: 9505016 B
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):								
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	1- 51981	units	Limit	2- 51982	units	Limit	3- 51983	units	Limit	4- 51984	units	Limit	
Lead(Pb)	EPA 6010A	X	490 mg/kg	10 X	250 mg/kg	10 X	12000 mg/kg	100 X	140 mg/kg	10	None			

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):								
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	5- 51985	units	Limit	6- 51986	units	Limit	7- 51987	units	Limit	8- 51988	units	Limit	
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	170 mg/kg	10 X	1200 mg/kg	10 X	30 mg/kg	10	None			

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

Approved by:



Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 104**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 104			
HOMO A/ PIPE LAGGING	FLOOR TO CEILING ACROSS BUILDING	150 lin ft	POOR FRIABLE HIGH
HOMO C/ BUILT-UP ROOF ASSUMED	ROOF	6600 ft ²	GOOD NON LOW
HOMO D/ ELECTRICAL WIRING ASSUMED	INTERIOR	UNKNOWN	UNKNOWN
HOMO E/ GASKETS ASSUMED	GENERATOR ROOM	UNKNOWN	GOOD NON LOW

* 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.

(2) Area monitoring for asbestos fibers performed demonstrating a clearance of less than 0.01f/cc.

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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 building 104 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.

Building 104

- Exterior: 1. POOR CONDITION, YELLOW, CONCRETE, 3.1 mg/cm²
CURB
- Interior: 2. POOR CONDITION, LEAD, TANK LINING 89.9 mg/cm²

- 
3. GOOD CONDITION, GREY, WOOD, TANK 5.0 mg/cm²
 4. POOR CONDITION, GREEN, WOOD, WALL 1.4 mg/cm²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 104, 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 building 104 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).



SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 104		
#2011S/WESTSIDE	30%	12000 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Departmental Approval

Accession: 504301
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION BUILDING 104
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

_____ Date: _____
Analyzed by: *Suzanne Y. W. [Signature]*

Accession: 504301
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION BUILDING 104
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A2104001
002	04-APR-95 N/S		A2104002
003	04-APR-95 N/S		A2104003
004	04-APR-95 N/S	26-APR-95	B2104004
005	04-APR-95 N/S	26-APR-95	B2104005

Components	Laboratory Id: 001	002	003	004	005
AMOSITE ASBESTOS (%)	5				
CHRYBOTILE ASBESTOS (%)	15				
TOTAL FIBROUS ASBESTOS (%)	20			ND	ND

MORTAR/PLASTER (%)	80				
MASTIC (%)				95	95
MISCELLANEOUS DEBRIS (%)				5	5

UNIFORMITY	U			L	L
SAMPLE COLOR.	W			T	T

Remarks:

002 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 003 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504301
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION BUILDING 104
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	26-APR-95	B2104006

Components Laboratory Id: 006

TOTAL FIBROUS ASBESTOS (%) ND

MASTIC (%) 95
MISCELLANEOUS DEBRIS (%) 5

UNIFORMITY L
SAMPLE COLOR. T

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 104

XRF DATA SHEET

DATE:03/23/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
1	LEAD	POOR	TANK INT.	CENTER BLD	LINING		SCREEN	89.9
2	WOOD	GOOD	TANK	CENTER BLD	TANK EXT.	LIGHT GREY	SCREEN	5.0
8	WOOD	POOR	FRONT WALL	1	DOOR	DARK GREEN	TEST	1.4
16	CONCRETE	POOR	CURB	2	CURB	YELLOW	SCREEN	3.1



APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES

Navy Public Works Center Environmental Laboratory

Bldg. 3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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: 9505016 B
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):				
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson				
Collector Name		Holstead	Holstead	Holstead	Holstead					
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95				
	Comp stop									
	Grab	30 Mar 95 @								
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab					
Sample Matrix		Soil	Soil	Soil	Soil					
PARAMETER		ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:	METHOD #	1- 51981	units Limit	2- 51982	units Limit	3- 51983	units Limit	4- 51984	units Limit	
Lead(Pb)	EPA 6010A	X 490 mg/kg	10 X	250 mg/kg	10 X	12000 mg/kg	100 X	140 mg/kg	10	None

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):				
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson				
Collector Name		Holstead	Holstead	Holstead	Holstead					
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95				
	Comp stop									
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @					
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab					
Sample Matrix		Soil	Soil	Soil	Soil					
PARAMETER		ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:	METHOD #	5- 51985	units Limit	6- 51986	units Limit	7- 51987	units Limit	8- 51988	units Limit	
Lead(Pb)	EPA 6010A	X 220 mg/kg	10 X	170 mg/kg	10 X	1200 mg/kg	10 X	30 mg/kg	10	None

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

Approved by: _____

Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 112**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 112			
BUILT-UP ROOF ASSUMED	ROOF	UNKNOWN	GOOD NON LOW

* 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

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OVER

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.

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*
CAPITOL
*
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.
- (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.

1.4.4 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 building 112 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.

Building 112

Exterior: NONE

Interior:	<ol style="list-style-type: none"> 1. POOR CONDITION, WHITE, WOOD, WINDOW 2. POOR CONDITION, WHITE, METAL, CEILING (ceiling could not be reached) 	<p>8.6 mg/cm² ASSUME POSITIVE</p>
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2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 112, 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 building 112 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 112		
#2014S/EASTSIDE	50%	170 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Departmental Approval

Accession: 504302
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 112
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: 4 MAY 95

Analyzed by: Suzanne Y. Wdosiatek



Accession: 504302
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 112
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A2112001
002	04-APR-95 N/S	26-APR-95	A2112001
003	04-APR-95 N/S	26-APR-95	A2112002
004	04-APR-95 N/S	26-APR-95	A2112002
005	04-APR-95 N/S	26-APR-95	A2112003

Components	Laboratory Id: 001	002	003	004	005
TOTAL FIBROUS ASBESTOS (%)	ND	ND	ND	ND	ND
TILE COMPONENTS (%)	100		100		100
MASTIC (%)		100		100	
UNIFORMITY	U	U	U	U	U
SAMPLE COLOR.	W	W	W	W	W
SAMPLE COLOR..	T		T		T
SAMPLE COLOR...	S		S		S



Accession: 504302
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 112
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	26-APR-95	A2112003

Components Laboratory Id: 006

TOTAL FIBROUS ASBESTOS (%)	ND
MASTIC (%)	100
SAMPLE COLOR.	W
UNIFORMITY	U



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 = Transluscent 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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.

Accession: 504302
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 112
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A2112001
002	04-APR-95 N/S	26-APR-95	A2112001
003	04-APR-95 N/S	26-APR-95	A2112002
004	04-APR-95 N/S	26-APR-95	A2112002
005	04-APR-95 N/S	26-APR-95	A2112003

Physical Description

001

002

003

004

005

Asbestos	Morphology	Color	Extn	SOE	Plchrc	App Ref Ind	Bir
						Paral Perp	

Extn = Extinction
 SOE = Signs of Elongation
 Plchrc = Pleiochroic
 App Ref Ind = Approximate Refractive Index
 Paral = Parallel
 Perp = Perpendicular
 Bir = Birefringence

No samples.



Accession: 504302
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 112
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	26-APR-95	A2112003

Physical Description

006

Asbestos	Morphology	Color	Extn	SOE	Plchrc	App Ref Ind	Bir
						Paral Perp	

Extn = Extinction
 SOE = Signs of Elongation
 Plchrc = Pleiochroic
 App Ref Ind = Approximate Refractive Index
 Paral = Parallel
 Perp = Perpendicular
 Bir = Birefringence



APPENDIX B
OPERATIONAL SPECIFICATIONS

3350



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 112

XRF DATA SHEET

DATE:03/25/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
3	WOOD	POOR	INTERIOR	4	OLD WINDOW	WHITE	SCREEN	8.6
	METAL	POOR	CEILING	CEILING	CEILING	WHITE	NOT TESTED	ASSUME



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

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: 9505016 B
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):								
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		1- 51981			2- 51982			3- 51983			4- 51984			
Lead(Pb)	EPA 6010A	X	490 mg/kg	10 X	250 mg/kg	10 X	12000 mg/kg	100 X	140 mg/kg	10			None	

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):								
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		5- 51985			6- 51986			7- 51987			8- 51988			
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	170 mg/kg	10 X	1200 mg/kg	10 X	30 mg/kg	10			None	

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

Approved by: _____

Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 113**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 113			
BUILT-UP ROOF ASSUMED	ROOF	6900 ft²	GOOD NON LOW

* 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

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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.

3350
OPER
OVER

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 building 113 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.

Building 113

Exterior: NONE

Interior: 1! POOR CONDITION, WHITE, METAL, VAULT DOOR 3.1 mg/cm²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 113, 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 building 113 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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.

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 113		
KW037/WESTSIDE	80%	190 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Departmental Approval

Accession: 504303
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 113
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

Date: _____
Analyzed by: Suzanne J. Whitworth

Accession: 504303
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 113
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
001	04-APR-95 N/S	26-APR-95	A2113001			
002	04-APR-95 N/S	26-APR-95	A2113001			
003	04-APR-95 N/S	26-APR-95	A2113002			
004	04-APR-95 N/S	26-APR-95	A2113002			
005	04-APR-95 N/S	26-APR-95	A2113003			
Components		Laboratory Id: 001	002	003	004	005
TOTAL FIBROUS ASBESTOS (%)		ND	ND	ND	ND	ND
TILE COMPONENTS (%)		100		100		100
MASTIC (%)			100		100	
UNIFORMITY		U	U	U	U	U
SAMPLE COLOR.		LBG	Y	LBG	Y	LBG
SAMPLE COLOR..		G		G		G
SAMPLE COLOR...		S		S		S

No samples.

Accession: 504303
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 113
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	26-APR-95	A2113003

Components Laboratory Id: 006

TOTAL FIBROUS ASBESTOS (%) ND

MASTIC (%) 100

UNIFORMITY U
SAMPLE COLOR. Y

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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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 113

XRF DATA SHEET

DATE:03/24/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
3	METAL	POOR	INTERIOR	2	VAULT DOOR	WHITE	SCREEN	3.1



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

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

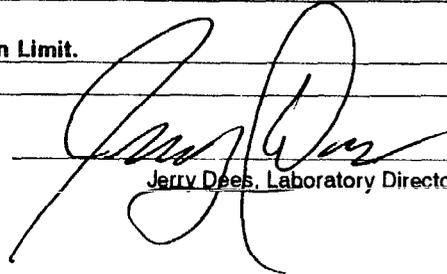
Lab ID Number: 9505020 E
Sample Date: 18 Apr 95
Received Date: 28 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 52470	2- 52471	3- 52472	4- 52473	Analyst(s):						
Sample Name	Requester	KW033 B. 1276 Side 3	KW034 Sec & Dock N	KW035 Sec to B. 149	KW036 N. Bldg 261 (W.)	Brian Nelson						
Collector Name		ML/BN	ML/BN	ML/BN	ML/BN							
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- 52470 units	Limit	2- 52471 units	Limit	3- 52472 units	Limit	4- 52473 units	Limit			
Lead(Pb)	EPA 6010A	X 190 mg/kg	10 X	80 mg/kg	10 X	340 mg/kg	10 X	300 mg/kg	10			None

Sample ID#	Lab	5- 52474	6- 52475	7- 52476	8- 52477	Analyst(s):						
Sample Name	Requester	KW037 B149 to B113	KW038 B. 112 E to Sec. F.	KW039 B. 84 (NEX)	KW040 W. Rubble Truman	Brian Nelson						
Collector Name		ML/BN	ML/BN	ML/BN	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 #	5- 52474 units	Limit	6- 52475 units	Limit	7- 52476 units	Limit	8- 52477 units	Limit			
Lead(Pb)	EPA 6010A	X 190 mg/kg	10 X	310 mg/kg	10 X	BDL mg/kg	10 X	90 mg/kg	10			None

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

Approved by:



Jerry Dees, Laboratory Director

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



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 149**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 149			
HOMO C/ 9"x9" BLACK FLOOR TILE	WEIGHT ROOM (2ND) BOTTOM LAYER	168 ft ²	GOOD NON LOW
HOMO F/ 9"x9" BLACK FLOOR TILE	EQUIPMENT ROOM BOTTOM LAYER	260 ft ²	GOOD NON LOW

* 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.

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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 building 149 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.

Building 149

Exterior:	1. POOR CONDITION, YELLOW, CONCRETE, STRIPING	3.8 mg/cm ²
	2. POOR CONDITION, YELLOW, CONCRETE, CURB	9.2 mg/cm ²
Interior:	3. POOR CONDITION, YELLOW, METAL, COLUMN GUARD	15.6 mg/cm ²
	4. GOOD CONDITION, YELLOW, METAL, COLUMN GUARD	21.2 mg/cm ²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 149, 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 building 149 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 149		
#2018S/ WESTSIDE	40%	140 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Departmental Approval

Accession: 504304
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 149
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: 4 MAY 95

Analyzed by: Suzanne Y. Wilcox



Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
001	04-APR-95 N/S	27-APR-95	A2149001			
002	04-APR-95 N/S	27-APR-95	A2149001			
003	04-APR-95 N/S	27-APR-95	A2149002			
004	04-APR-95 N/S	27-APR-95	A2149002			
005	04-APR-95 N/S	27-APR-95	A2149003			
Components		Laboratory Id: 001 002 003 004 005				
TREMOLITE ASBESTOS (%)		<1		<1		<1
TOTAL FIBROUS ASBESTOS (%)		<1	ND	<1	ND	<1
CELLULOSE FIBERS (%)		8		8		8
NONFIBROUS TREMOLITE (%)		<1				
TILE COMPONENTS (%)		90		91		91
MASTIC (%)					100	
UNIFORMITY		U		U		U
SAMPLE COLOR.		LBL		LBL		LBL
SAMPLE COLOR..		T		T		T
SAMPLE COLOR...		S		S		S

Remarks:

001 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 002 INSUFFICIENT SAMPLE FOR ANALYSIS.
 003 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 005 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.

Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
006	04-APR-95 N/S	27-APR-95	A2149003			
007	04-APR-95 N/S	27-APR-95	B2149004			
008	04-APR-95 N/S	27-APR-95	B2149004			
009	04-APR-95 N/S	27-APR-95	B2149005			
010	04-APR-95 N/S	27-APR-95	B2149005			
Components		Laboratory Id: 006 007 008 009 010				
TOTAL FIBROUS ASBESTOS (%)		ND	ND	ND	ND	ND
CELLULOSE FIBERS (%)			5		5	
MASTIC (%)		100		100		100
TILE COMPONENTS (%)			95		95	
UNIFORMITY		U	U	U	U	U
SAMPLE COLOR.		Y	B	Y	B	Y
SAMPLE COLOR..			W		W	
SAMPLE COLOR...			S		S	

Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	04-APR-95 N/S	27-APR-95	B2149006
012	04-APR-95 N/S	27-APR-95	B2149006
013	04-APR-95 N/S	27-APR-95	C2149007-
014	04-APR-95 N/S	27-APR-95	C2149007
015	04-APR-95 N/S		C2149008

Components	Laboratory Id: 011	012	013	014	015
CHRYBOTILE ASBESTOS (%)			15	<1	
TOTAL FIBROUS ASBESTOS (%)	ND	ND	15	<1	

CELLULOSE FIBERS (%)	5				
TILE COMPONENTS (%)	95		85		
MASTIC (%)		100		99	

UNIFORMITY	U	U	U	U
SAMPLE COLOR.	B	Y	B	BR
SAMPLE COLOR..	W			
SAMPLE COLOR...	P			
SAMPLE COLOR....	S			

Remarks:

015 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
016	04-APR-95 N/S	27-APR-95	C2149008
017	04-APR-95 N/S		C2149009
018	04-APR-95 N/S	27-APR-95	C2149009
019	04-APR-95 N/S	27-MAY-95	D2149010
020	04-APR-95 N/S	27-APR-95	D2149010

Components	Laboratory Id: 016	017	018	019	020
CHRYBOTILE ASBESTOS (%)	<1				
TOTAL FIBROUS ASBESTOS (%)	<1		ND	ND	ND
CELLULOSE FIBERS (%)			<1		
MASTIC (%)	99		99		100
TILE COMPONENTS (%)				100	
UNIFORMITY	U		U	U	U
SAMPLE COLOR.	BR		BR	GR	T
SAMPLE COLOR..				S	

Remarks:

017 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
021	04-APR-95 N/S	27-APR-95	D2149011			
022	04-APR-95 N/S	27-APR-95	D2149011			
023	04-APR-95 N/S	27-APR-95	D2149012			
024	04-APR-95 N/S	27-APR-95	D2149012			
025	04-APR-95 N/S	27-APR-95	E2149013			
Components		Laboratory Id: 021	022	023	024	025
TOTAL FIBROUS ASBESTOS (%)		ND	ND	ND	ND	ND
TILE COMPONENTS (%)		100		100		100
MASTIC (%)			100		100	
UNIFORMITY		U	U	U	U	U
SAMPLE COLOR.		GR	T	GR	T	BG
SAMPLE COLOR..		S		S		T
SAMPLE COLOR...						W
SAMPLE COLOR....						S

Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id						
026	04-APR-95 N/S	27-APR-95	E2149013						
027	04-APR-95 N/S	27-APR-95	E2149014						
028	04-APR-95 N/S	27-APR-95	E2149014						
029	04-APR-95 N/S	27-APR-95	E2149015						
030	04-APR-95 N/S	27-APR-95	E2149015						
Components				Laboratory Id:	026	027	028	029	030
TOTAL FIBROUS ASBESTOS (%)				ND	ND	ND	ND	ND	
TILE COMPONENTS (%)					100		100		
MASTIC (%)						100		100	
UNIFORMITY				U	U	U	U	U	
SAMPLE COLOR.				BG	C	BG	BG	C	
SAMPLE COLOR..				W		T	T		
SAMPLE COLOR...				T		W	W		
SAMPLE COLOR....				S		S	S		

Remarks:

026 INSUFFICIENT SAMPLE FOR ANALYSIS

Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
031	04-APR-95 N/S	27-APR-95	F2149016
032	04-APR-95 N/S	27-APR-95	F2149016
033	04-APR-95 N/S		F2149017
034	04-APR-95 N/S	27-APR-95	F2149017
035	04-APR-95 N/S		F2149018

Components	Laboratory Id: 031	032	033	034	035
CHRYBOTILE ASBESTOS (%)	10				
TOTAL FIBROUS ASBESTOS (%)	10	ND		ND	
CELLULOSE FIBERS (%)		<1			
TILE COMPONENTS (%)	90				
MASTIC (%)		99		100	
UNIFORMITY	U	U		U	
SAMPLE COLOR.	LG	Y		Y	
SAMPLE COLOR..	DG				
SAMPLE COLOR...	S				

Remarks:

033 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 035 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504304
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 149
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id		
036	04-APR-95	N/S	27-APR-95	F2149018	
037	04-APR-95	N/S	27-APR-95	G2149019	
038	04-APR-95	N/S	27-APR-95	G2149020	
039	04-APR-95	N/S	27-APR-95	G2149021	
Components		Laboratory Id: 036			
		036	037	038	039
TOTAL FIBROUS ASBESTOS (%)		ND	ND	ND	ND
MASTIC (%)		100			
TILE COMPONENTS (%)			100	100	100
UNIFORMITY		U	U	U	U
SAMPLE COLOR.		Y	O	O	O
SAMPLE COLOR..			I	I	I
SAMPLE COLOR...			S	S	S

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 149

XRF DATA SHEET

DATE:03/24/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
4	CONCRETE	POOR	EXTERIOR	PARKING AREA	STRIPING	YELLOW	SCREEN	3.8
6	METAL	POOR	INTERIOR BAY	COLUMN GUARD	COLUMN	YELLOW	SCREEN	15.6
13	METAL	GOOD	PORT OPS BAY	COLUMN GUARD	COLUMN	YELLOW	SCREEN	21.2
26	CONCRETE	POOR	EXTERIOR	1	CURB	YELLOW	SCREEN	9.2



APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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

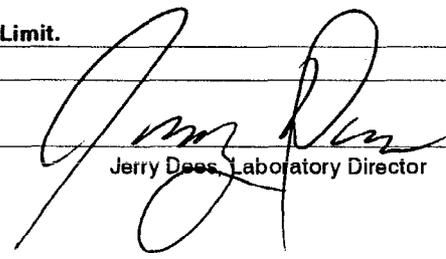
Lab ID Number: 9505016 C
 Sample Date: 30 Mar 95
 Received Date: 7 Apr 95
 Sample Site: NAS Key West
 Job Order #: 160 4002

Sample ID#	Lab	1- 51989	2- 51990	3- 51991	4- 51992	Analyst(s):								
Sample Name	Requester	#2017S Bldg 1374	#2018S Bldg 149	#2019S Bldg 261	#2020S Bldg 284	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	1- 51989		10 X	2- 51990		10 X	3- 51991		10 X	4- 51992		10 X	
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	140 mg/kg	10 X	120 mg/kg	10 X	180 mg/kg	10 X			10	None

Sample ID#	Lab	5- 51993	6- 51994	7-	8-	Analyst(s):									
Sample Name	Requester	#2021S Bldg 795	#2022S Bldg 127			Brian Nelson									
Collector Name		Holstead	Holstead												
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95									
	Comp stop														
	Grab	30 Mar 95 @	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab												
Sample Matrix		Soil	Soil												
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)	
Metals:	METHOD #	5- 51993		10 X	6- 51994		10 X	7-		10	8-		10		
Lead(Pb)	EPA 6010A	X	170 mg/kg	10 X	770 mg/kg	10 X			mg/kg	10			mg/kg	10	None

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

Approved by: _____


 Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:41



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 189**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 189			
HOMO C/ 9"x9" GREEN FLOOR TILE	WEST SIDE OFFICE UNDER BLACK TILE	125 ft ²	FAIR NON LOW
HOMO D/ 12"x12" BLACK FLOOR TILE	EAST SIDE OFFICE	UNKNOWN	FAIR NON LOW

NOTE: INSPECTORS COULD NOT ACCESS ENTIRE BUILDING DUE TO LARGE WOODEN CRATES.

* 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.
- (2) Area monitoring for asbestos fibers performed demonstrating a clearance of less than 0.01 f/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.

1.4.4 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 building 189 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.

Building 189

Exterior:	1. POOR CONDITION, YELLOW, ASPHALT STRIPING	3.9 mg/cm ²
Interior:	2. POOR CONDITION, RED, CONCRETE, WALL	1.8 mg/cm ²
	3. POOR CONDITION, GREEN, FIBERBOARD, WALL	2.0 mg/cm ²
	4. POOR CONDITION, WHITE, WOOD, WINDOW MOLDING	1.7 mg/cm ²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 189, 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 building 189 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 189		
#2012S/SOUTHSIDE	90%	140 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**

Departmental Approval

Accession: 504305
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 189
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: Suzanne Y. Wdowick



Accession: 504305
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 189
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	28-APR-95	A2189001
002	04-APR-95 N/S	28-APR-95	A2189002
003	04-APR-95 N/S	28-APR-95	A2189003
004	04-APR-95 N/S	28-APR-95	B2189004
005	04-APR-95 N/S	28-APR-95	B2189005

Components	Laboratory Id: 001	002	003	004	005
TOTAL FIBROUS ASBESTOS (%)	ND	ND	ND	ND	ND

CELLULOSE FIBERS (%)	70	70	70		
GLASS FIBERS (%)				30	30
TAR (%)	30	30	30	47	47
GRAVEL (%)				10	10
GROUND GLASS (%)				10	10
SAND (%)				3	3

UNIFORMITY	U	U	U	L	L
SAMPLE COLOR.	B	B	B	B	B
SAMPLE COLOR..				G	G
SAMPLE COLOR...				B	B
SAMPLE COLOR....				B	B
SAMPLE COLOR.....				B	B



Accession: 504305
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 189
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	28-APR-95	B2189006
007	04-APR-95 N/S	28-APR-95	C2189007
008	04-APR-95 N/S	28-APR-95	C2189007
009	04-APR-95 N/S	28-APR-95	C2189008
010	04-APR-95 N/S	28-APR-95	C2189008

Components	Laboratory Id: 006	007	008	009	010
CHRYBOTILE ASBESTOS (%)		5			
TOTAL FIBROUS ASBESTOS (%)	ND	5	ND		ND

GLASS FIBERS (%)	30				
GRAVEL (%)	10				
GROUND GLASS (%)	10				
SAND (%)	3				
TAR (%)	47				
TILE COMPONENTS (%)		95			
MASTIC (%)			100		100

UNIFORMITY	L	U	U	U
SAMPLE COLOR.	B	GR	B	B
SAMPLE COLOR..	G	BL		
SAMPLE COLOR...	B	W		
SAMPLE COLOR....	B	S		
SAMPLE COLOR.....	B			

Remarks:

009 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504305
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 189
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	04-APR-95 N/S		C2189009
012	04-APR-95 N/S	28-APR-95	C2189009
013	04-APR-95 N/S	28-APR-95	C2189010
014	04-APR-95 N/S	28-APR-95	C2189010
015	04-APR-95 N/S		C2189011

Components	Laboratory Id: 011	012	013	014	015
CHRYBOTILE ASBESTOS (%)			5		
TOTAL FIBROUS ASBESTOS (%)		ND	5	ND	
MASTIC (%)		100			
TILE COMPONENTS (%)			95		100
UNIFORMITY		U	U	U	
SAMPLE COLOR.		B	G	Y	

Remarks:

011 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 015 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504305
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 189
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
016	04-APR-95 N/S	28-APR-95	D2189011
017	04-APR-95 N/S		D2189012
018	04-APR-95 N/S	28-APR-95	D2189012
Components		Laboratory Id: 016	017 018
TOTAL FIBROUS ASBESTOS (%)		ND	ND
MASTIC (%)		100	100
UNIFORMITY		U	Y
SAMPLE COLOR.		Y	U

Remarks:

017 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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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)



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APPENDIX C XRF DATA SHEETS



BUILDING 189

XRF DATA SHEET

DATE:03/24/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
1	ASPHALT	POOR	EXTERIOR		1 STRIPING	YELLOW	SCREEN	3.9
2	CONCRETE	POOR	INTERIOR		1 WALL	RED	SCREEN	1.8
8	FIBERBOARD	POOR	INTERIOR		3 WALL	GREEN	SCREEN	2.0
11	WOOD	POOR	BATHROOM		4 WINDOW MOLDING	WHITE	TEST	1.7

APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES

Navy Public Works Center Environmental Laboratory

Bldg. 3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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: 9505016 B
 Sample Date: 30 Mar 95
 Received Date: 7 Apr 95
 Sample Site: NAS Key West
 Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):				
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson				
Collector Name		Holstead	Holstead	Holstead	Holstead					
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95				
	Comp stop									
	Grab	30 Mar 95 @								
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab					
Sample Matrix		Soil	Soil	Soil	Soil					
PARAMETER	METHOD #	ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:		1- 51981	units Limit	2- 51982	units Limit	3- 51983	units Limit	4- 51984	units Limit	
Lead(Pb)	EPA 6010A	X	490 mg/kg 10 X	250 mg/kg 10 X	12000 mg/kg 100 X	140 mg/kg 10				None

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):				
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson				
Collector Name		Holstead	Holstead	Holstead	Holstead					
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95				
	Comp stop									
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @					
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab					
Sample Matrix		Soil	Soil	Soil	Soil					
PARAMETER	METHOD #	ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:		5- 51985	units Limit	6- 51986	units Limit	7- 51987	units Limit	8- 51988	units Limit	
Lead(Pb)	EPA 6010A	X	220 mg/kg 10 X	170 mg/kg 10 X	1200 mg/kg 10 X	30 mg/kg 10				None

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

Approved by: _____

Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 223**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 223			
TRANSITE SIDING PRIOR TO 1985 ASSUMED	UNDER PRESSED BOARD EXTERIOR	UNKNOWN	UNKNOWN NON LOW

* 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.

(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.

1.4.4 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

358

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 building 223 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.

Building 223

Exterior: NONE

Interior:	1. FAIR CONDITION, DARK GREEN, WOOD, COLUMN	2.7 mg/cm ²
	2. FAIR CONDITION, GREEN, WOOD, COLUMN	3.9 mg/cm ²
	3. FAIR CONDITION, YELLOW, CONCRETE, FLOOR	2.6 mg/cm ²
	4. FAIR CONDITION, BLACK, CONCRETE, FLOOR	2.0 mg/cm ²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 223, 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 building 223 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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.

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 223		
KW029/SOUTHEAST	90%	90 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**

Departmental Approval

Accession: 504306
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 223
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: 4 MAY 95

Analyzed by: Suzanne J. Wilbourn

Accession: 504306
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 223
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
001	04-APR-95 N/S	27-APR-95	A2223001			
002	04-APR-95 N/S	27-APR-95	A2223002			
003	04-APR-95 N/S	27-APR-95	A2223003			
004	04-APR-95 N/S	27-APR-95	B2223004			
005	04-APR-95 N/S	27-APR-95	B2223004			
Components		Laboratory Id: 001 002 003 004 005				
TOTAL FIBROUS ASBESTOS (%)		ND	ND	ND	ND	ND
CELLULOSE FIBERS (%)		70	70	70	8	
TAR (%)		30	30	30		
TILE COMPONENTS (%)					92	
MASTIC (%)						100
UNIFORMITY		U	U	U	U	U
SAMPLE COLOR.		BR	BR	BR	GR	Y
SAMPLE COLOR..					W	
SAMPLE COLOR...					S	

Accession: 504306
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 223
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
006	04-APR-95 N/S	27-APR-95	B2223005			
007	04-APR-95 N/S	27-APR-95	B2223005			
008	04-APR-95 N/S	27-APR-95	B2223006			
009	04-APR-95 N/S	27-APR-95	B2223006			
010	04-APR-95 N/S	27-APR-95	C2223007			
Components		Laboratory Id: 006				
TOTAL FIBROUS ASBESTOS (%)		ND	007	008	009	010
CELLULOSE FIBERS (%)		8		8		5
TILE COMPONENTS (%)		92		92		95
MASTIC (%)			100		100	
UNIFORMITY		U	U	U	U	U
SAMPLE COLOR.		GR	Y	GR	Y	G
SAMPLE COLOR..		W		W		P
SAMPLE COLOR...		S		S		W
SAMPLE COLOR....						S



Accession: 504306
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 223
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	04-APR-95 N/S	27-APR-95	C2223007
012	04-APR-95 N/S	27-APR-95	C2223008
013	04-APR-95 N/S	27-APR-95	C2223008
014	04-APR-95 N/S	27-APR-95	C2223009
015	04-APR-95 N/S	27-APR-95	C2223009

Components	Laboratory Id: 011	012	013	014	015
TOTAL FIBROUS ASBESTOS (%)	ND	ND	ND	ND	ND
CELLULOSE FIBERS (%)		5		5	
MASTIC (%)	100		100		100
TILE COMPONENTS (%)		95		95	
UNIFORMITY	U	U	U	U	U
SAMPLE COLOR.	Y	G	Y	G	Y
SAMPLE COLOR..		P		P	
SAMPLE COLOR...		W		W	
SAMPLE COLOR....		S		S	

SUPPLEMENTARY INFORMATION

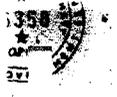
SAMPLE TYPE: BULK

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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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 223

XRF DATA SHEET

DATE:03/23/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
9	WOOD	FAIR	ROOM 7	3	COLUMN	DARK GREEN	SCREEN	2.7
10	WOOD	FAIR	ROOM 7	3	COLUMN	ARMY GREEN	SCREEN	3.9
13	CONCRETE	FAIR	ROOM 8	FLOOR	STRIPING	YELLOW	SCREEN	2.6
14	CONCRETE	FAIR	ROOM 8	FLOOR	STRIPING	BLACK	SCREEN	2.0



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

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

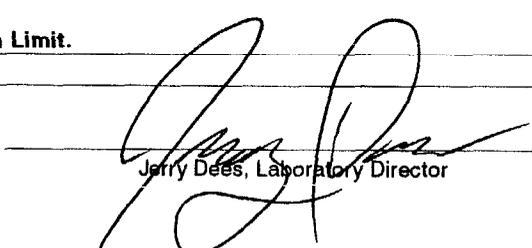
Lab ID Number: 9505020 D
Sample Date: 18 Apr 95
Received Date: 28 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 52462	2- 52463	3- 52464	4- 52465	Analyst(s):						
Sample Name	Requester	KW025 Bldg. 102	KW026 N. Bldg 105	KW027 Parking Lot B. 105	KW028 Paint Locker	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- 52462	units Limit	2- 52463	units Limit	3- 52464	units Limit	4- 52465	units Limit			
Lead(Pb)	EPA 6010A	X	20 mg/kg 10 X	120 mg/kg 10 X	BDL mg/kg 10 X	910 mg/kg 10 X						None

Sample ID#	Lab	5- 52466	6- 52467	7- 52468	8- 52469	Analyst(s):				
Sample Name	Requester	KW029 Background B. 1276	KW030 B. 1276 Rubble	KW031 B. 1276 Pump Site	KW032 B. 1276 Side 4	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.	Preservative(s)
Metals:	METHOD #	5- 52466	units Limit	6- 52467	units Limit	7- 52468	units Limit	8- 52469	units Limit	
Lead(Pb)	EPA 6010A	X	90 mg/kg 10 X	140 mg/kg 10 X	150 mg/kg 10 X	300 mg/kg 10 X				None

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

Approved by:


Jeffrey Dees, Laboratory Director

Date/Time: 08-May-95 13:48



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 261**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 261			
GASKET MATERIAL ASSUMED	FIRE MAIN ON NORTH END	UNKNOWN	GOOD NON LOW

* 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.
- (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.

1.4.4 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 building 261 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.

Building 261

Exterior: NONE

Interior:	1. POOR CONDITION, RED, WOOD, COLUMN	2.9 mg/cm ²
	2. POOR CONDITION, BLACK, WOOD, COLUMN	3.2 mg/cm ²
	3. POOR CONDITION, YELLOW, WOOD, COLUMN	5.2 mg/cm ²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 261, 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 building 261 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 261		
#2019/ WESTSIDE	0%	120 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES



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 261

XRF DATA SHEET

DATE:03/23/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
2	WOOD	POOR	CENTER BLD	CENTER BLD	COLUMN	RED	SCREEN	2.9
7	WOOD	POOR	CENTER BLD	CENTER BLD	COLUMN	BLACK	SCREEN	3.2
8	WOOD	POOR	CENTER BLD	CENTER BLD	COLUMN	YELLOW	SCREEN	5.2

358
OF
21

**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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

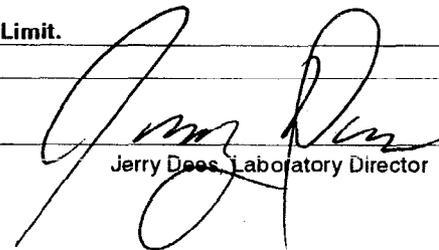
Lab ID Number: 9505016 C
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51989	2- 51990	3- 51991	4- 51992	Analyst(s):								
Sample Name	Requester	#2017S Bldg 1374	#2018S Bldg 149	#2019S Bldg 261	#2020S Bldg 284	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	1- 51989	units	Limit	2- 51990	units	Limit	3- 51991	units	Limit	4- 51992	units	Limit	
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	140 mg/kg	10 X		120 mg/kg	10 X		180 mg/kg	10		None

Sample ID#	Lab	5- 51993	6- 51994	7-	8-	Analyst(s):								
Sample Name	Requester	#2021S Bldg 795	#2022S Bldg 1276			Brian Nelson								
Collector Name		Holstead	Holstead											
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @											
Sample Type	Comp/Grab	Grab	Grab											
Sample Matrix		Soil	Soil											
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	5- 51993	units	Limit	6- 51994	units	Limit	7-	units	Limit	8-	units	Limit	
Lead(Pb)	EPA 6010A	X	170 mg/kg	10 X	770 mg/kg	10		mg/kg	10		mg/kg	10		None

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

Approved by:



Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:41



**LEAD AND ASBESTOS SURVEY
OF
BUILDINGS 284, 285, 286**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
Buildings 284, 285, 286			
NO ACM DETECTED	-	-	-

* 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.

(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.

1.4.4 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 buildings 284, 285, 286 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.

Buildings 284, 285, 286

Exterior: NONE

Interior: 1. POOR CONDITION, RED, METAL, INTERIOR SLIDING DOOR 7.2 mg/cm²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in buildings 284, 285, 286, 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 buildings 284, 285, 286 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDINGS 284, 285, 286		
#2020S/ NORTHSIDE	50%	180mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Departmental Approval

Accession: 504307
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 284
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

_____ Date: _____
Analyzed by: *Suzanne G. Williams*



Accession: 504307
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 284
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id			
001	04-APR-95	N/S	26-APR-95	A2284001		
002	04-APR-95	N/S	26-APR-95	A2284001		
003	04-APR-95	N/S	26-APR-95	A2284002		
004	04-APR-95	N/S	26-APR-95	A2284002		
Components			Laboratory Id: 001	002	003	004
TOTAL FIBROUS ASBESTOS (%)			ND	ND	ND	ND
TILE COMPONENTS (%)			100		100	
MASTIC (%)				100		100
UNIFORMITY			U	U	U	U
SAMPLE COLOR.			BG	T	BG	T
SAMPLE COLOR..			G		G	
SAMPLE COLOR...			S		S	

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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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

BUILDINGS 284, 285, 286

XRF DATA SHEET

DATE:03/26/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
4	METAL	POOR	286	2	SLIDING DOOR	RED	SCREEN	7.2



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

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: 9505016 C
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51989	2- 51990	3- 51991	4- 51992	Analyst(s):					
Sample Name	Requester	#2017S Bldg 1374	#2018S Bldg 149	#2019S Bldg 261	#2020S Bldg 284	Brian Nelson					
Collector Name		Holstead	Holstead	Holstead	Holstead						
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95					
	Comp stop										
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @						
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab						
Sample Matrix		Soil	Soil	Soil	Soil						
PARAMETER	METHOD #	ID#	Det. Limit	ID#	Det. Limit	ID#	Det. Limit	ID#	Det. Limit	Preservative(s)	
Metals:		1- 51989	units	2- 51990	units	3- 51991	units	4- 51992	units		
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	140 mg/kg	10 X	120 mg/kg	10 X	180 mg/kg	10	None

Sample ID#	Lab	5- 51993	6- 51994	7-	8-	Analyst(s):					
Sample Name	Requester	#2021S Bldg 795	#2022S Bldg 1276			Brian Nelson					
Collector Name		Holstead	Holstead								
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95					
	Comp stop										
	Grab	30 Mar 95 @	30 Mar 95 @								
Sample Type	Comp/Grab	Grab	Grab								
Sample Matrix		Soil	Soil								
PARAMETER	METHOD #	ID#	Det. Limit	ID#	Det. Limit	ID#	Det. Limit	ID#	Det. Limit	Preservative(s)	
Metals:		5- 51993	units	6- 51994	units	7-	units	8-	units		
Lead(Pb)	EPA 6010A	X	170 mg/kg	10 X	770 mg/kg	10	mg/kg	10	mg/kg	10	None

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

Approved by: _____

Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:41



LEAD AND ASBESTOS SURVEY
OF
BUILDING 795

INSPECTION PERFORMED BY
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 795			
HOMO A/ 12"x12" GREY FLOOR TILE	EAST OFFICE BOTTOM LAYER	410 ft ²	GOOD NON LOW
HOMO B/ 12"x12" TAN FLOOR TILE	EAST OFFICE TOP LAYER	410 ft ²	GOOD NON HIGH
HOMO C/ 9"x9" GREY FLOOR TILE	WEST OFFICE	120 ft ²	GOOD NON HIGH
HOMO D/ BEIGE FLOOR TILE	OFFICE STORAGE	150 ft ²	GOOD NON HIGH
ELECTRICAL WIRING ASSUMED	INTERIOR	UNKNOWN	GOOD NON LOW

* 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

354
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.
- (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.

1.4.4 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 building 1276 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.

Building 1276

Exterior: NONE

Interior: NONE

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 795, 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 building 795 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 795		
#2021S/ NORTHSIDE	50%	170 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES



Departmental Approval

Accession: 504308
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 795
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: Suzanne J. Wozniak



Accession: 504308
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 795
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	28-APR-95	A2795001
002	04-APR-95 N/S	28-APR-95	A2795001
003	04-APR-95 N/S		A2795002
004	04-APR-95 N/S		A2795002
005	04-APR-95 N/S		A2795003

Components	Laboratory Id: 001	002	003	004	005
CHRYSOTILE ASBESTOS (%)	5	10			
TOTAL FIBROUS ASBESTOS (%)	5	10			

TILE COMPONENTS (%)	95				
MASTIC (%)		90			

UNIFORMITY	U	U			
SAMPLE COLOR.	G	B			

Remarks:

003 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 004 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 005 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504308
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 795
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S		A2795003
007	04-APR-95 N/S	28-APR-95	B2795004
008	04-APR-95 N/S		B2795004
009	04-APR-95 N/S		B2795005
010	04-APR-95 N/S	28-APR-95	B2795005

Components	Laboratory Id: 006	007	008	009	010
CHRYBOTILE ASBESTOS (%)		3			8
TREMOLITE ASBESTOS (%)		1			
TOTAL FIBROUS ASBESTOS (%)		4			8

FILE COMPONENTS (%)		96			
MASTIC (%)					92

UNIFORMITY		U			U
SAMPLE COLOR.		BG			B

Remarks:

006 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 007 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 008 INSUFFICIENT SAMPLE FOR ANALYSIS.
 009 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504308
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 795
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
011	04-APR-95	N/S	B2795006
012	04-APR-95	N/S	B2795006
013	04-APR-95	N/S	C2795007
014	04-APR-95	N/S	C2795007
015	04-APR-95	N/S	C2795008

Components	Laboratory Id: 011	012	013	014	015
CHRYBOTILE ASBESTOS (%)			3		
TOTAL FIBROUS ASBESTOS (%)			3	ND	
TILE COMPONENTS (%)			97		
MASTIC (%)				100	
UNIFORMITY			U	U	
SAMPLE COLOR.			G	B	

Remarks:

011 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 012 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 015 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504308
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 795
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
016	04-APR-95 N/S	28-APR-95	C2795008
017	04-APR-95 N/S		C2795009
018	04-APR-95 N/S	28-APR-95	C2795009
019	04-APR-95 N/S	28-APR-95	D2795010
020	04-APR-95 N/S	28-APR-95	D2795010

Components	Laboratory Id: 016	017	018	019	020
CHRYBOTILE ASBESTOS (%)				5	
TOTAL FIBROUS ASBESTOS (%)	ND		ND	5	ND
MASTIC (%)	100		100		100
TILE COMPONENTS (%)				95	
UNIFORMITY	U		U	U	U
SAMPLE COLOR.	B		B	BG	T
SAMPLE COLOR..				G	
SAMPLE COLOR...				I	
SAMPLE COLOR....				S	

Remarks:

017 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504308
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 795
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
021	04-APR-95 N/S		D2795011
022	04-APR-95 N/S	28-APR-95	D2795011
023	04-APR-95 N/S		D2795012
024	04-APR-95 N/S	28-APR-95	D2795012

Components	Laboratory Id: 021	022	023	024
TOTAL FIBROUS ASBESTOS (%)		ND		ND
MASTIC (%)		100		100
UNIFORMITY		U		U
SAMPLE COLOR.		T		T

Remarks:

021 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 023 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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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

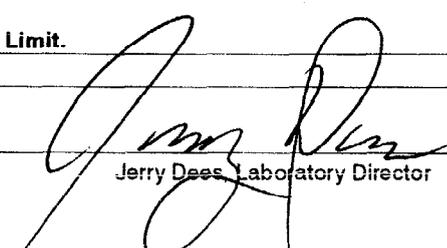
Lab ID Number: 9505016 C
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51989	2- 51990	3- 51991	4- 51992	Analyst(s):				
Sample Name	Requester	#2017S Bldg 1374	#2018S Bldg#49	#2019S Bldg 261	#2020S Bldg 284	Brian Nelson				
Collector Name		Holstead	Holstead	Holstead	Holstead					
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95				
	Comp stop									
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @					
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab					
Sample Matrix		Soil	Soil	Soil	Soil					
PARAMETER		ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:	METHOD #	1- 51989	units Limit	2- 51990	units Limit	3- 51991	units Limit	4- 51992	units Limit	
Lead(Pb)	EPA 6010A	X	220 mg/kg 10 X	140 mg/kg 10 X	120 mg/kg 10 X	180 mg/kg 10 X	10	None		

Sample ID#	Lab	5- 51993	6- 51994	7-	8-	Analyst(s):				
Sample Name	Requester	#2021S Bldg 795	#2022S Bldg 127			Brian Nelson				
Collector Name		Holstead	Holstead							
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95				
	Comp stop									
	Grab	30 Mar 95 @	30 Mar 95 @							
Sample Type	Comp/Grab	Grab	Grab							
Sample Matrix		Soil	Soil							
PARAMETER		ID#	Det.	ID#	Det.	ID#	Det.	ID#	Det.	Preservative(s)
Metals:	METHOD #	5- 51993	units Limit	6- 51994	units Limit	7-	units Limit	8-	units Limit	
Lead(Pb)	EPA 6010A	X	170 mg/kg 10 X	770 mg/kg 10		mg/kg 10		mg/kg 10	10	None

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

Approved by: _____



Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:41



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 1276**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 1276			
HOMO A/ 12"x12" WHITE FLOOR TILE	OFFICE AREA	144 ft ²	GOOD NON HIGH
HOMO B/ BUILT-UP ROOF	ROOF	2700 ft ²	GOOD NON LOW

NOTE: CEILING TILE IN OFFICE AND STORAGE WAS NOT SAMPLED.

* 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.

(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.

1.4.4 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 building 1276 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.

Building 1276

Exterior:	1. POOR CONDITION, YELLOW, CEMENT, WALKWAY	2.5 mg/cm ²
	2. POOR CONDITION, BLUE, METAL, CURB	3.0 mg/cm ²
Interior:	NONE	

2.5 CONCLUSIONS AND RECOMMENDATIONS



As a result of the inspections for LBP in building 1276, 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 building 1276 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 1276		
#2022S/ SOUTHSIDE	0%	770 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES



Departmental Approval

Accession: 504309
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 1276
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

_____ Date: _____
Analyzed by: Suzanne J. Whitwick

Accession: 504309
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 1276
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	27-APR-95	A21276001
002	04-APR-95 N/S	27-APR-95	A21276001
003	04-APR-95 N/S		A21276002
004	04-APR-95 N/S	27-APR-95	A21276002
005	04-APR-95 N/S		A21276003

Components	Laboratory Id: 001	002	003	004	005
CHRYSTILE ASBESTOS (%)	3				
TOTAL FIBROUS ASBESTOS (%)	3	ND	ND	ND	ND

TILE COMPONENTS (%)	97				
MASTIC (%)				100	

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

Remarks:

002 INSUFFICIENT SAMPLE FOR ANALYSIS.
 003 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 005 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.



Accession: 504309
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 1276
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	27-APR-95	A21276003

Components Laboratory Id: 006

TOTAL FIBROUS ASBESTOS (%) ND

Remarks:

006 INSUFFICIENT SAMPLE FOR ANALYSIS.

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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



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 1276

XRF DATA SHEET

DATE:03/23/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
10	CEMENT	POOR	EXTERIOR	1	WALKWAY	YELLOW	TEST	2.5
11	METAL	POOR	CURB	1	CURB	BLUE	SCREEN	3.0



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg. 3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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

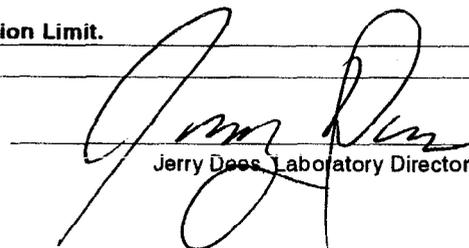
Lab ID Number: 9505016 C
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID #	Lab	1- 51989	2- 51990	3- 51991	4- 51992	Analyst(s):								
Sample Name	Requester	#2017S Bldg 1374	#2018S Bldg#49	#2019S Bldg 261	#2020S Bldg 284	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		1- 51989			2- 51990			3- 51991			4- 51992			
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	140 mg/kg	10 X		120 mg/kg	10 X		180 mg/kg	10		None

Sample ID #	Lab	5- 51993	6- 51994	7-	8-	Analyst(s):								
Sample Name	Requester	#2021S Bldg 795	#2022S Bldg 127			Brian Nelson								
Collector Name		Holstead	Holstead											
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @											
Sample Type	Comp/Grab	Grab	Grab											
Sample Matrix		Soil	Soil											
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		5- 51993			6- 51994			7-			8-			
Lead(Pb)	EPA 6010A	X	170 mg/kg	10 X	770 mg/kg	10		mg/kg	10		mg/kg	10		None

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

Approved by:



Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:41



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 1374**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 1374			
BUILT-UP ROOF ASSUMED	ROOF	800 ft²	GOOD NON LOW

* 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 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.

1.4.4 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 building 1374 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.

Building 1374

Exterior: NONE

Interior: NONE

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 1374, 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 building 1374 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 1374		
#2017S/SOUTHSIDE	90%	220mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**

Departmental Approval

Accession: 504310
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 1374
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

Date: _____
Analyzed by: Suzanne Y. Wdowski

Accession: 504310
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 1374
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A21374001
002	04-APR-95 N/S	26-APR-95	A21374001
003	04-APR-95 N/S	27-APR-95	A21374002
004	04-APR-95 N/S	27-APR-95	A21374002
005	04-APR-95 N/S	27-APR-95	A21374003

Components	Laboratory Id: 001	002	003	004	005
TREMOLITE ASBESTOS (%)	<1		<1		<1
TOTAL FIBROUS ASBESTOS (%)	<1	ND	<1	ND	<1

CELLULOSE FIBERS (%)	1		5		5
NONFIBROUS TREMOLITE (%)	<1		<1		<1
TILE COMPONENTS (%)	97		93		93
MASTIC (%)		100		100	

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

Remarks:

001 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 003 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.
 005 ASPECT RATIO OF THE FIBROUS TREMOLITE IS 3:1 OR GREATER.

Accession: 504310
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 1374
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	27-APR-95	A21374003

Components Laboratory Id: 006

TOTAL FIBROUS ASBESTOS (%) ND

MASTIC (%) 100

UNIFORMITY U
SAMPLE COLOR. Y

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 = Transluscent 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.)

This report may not be reproduced except in full without written approval from Analytical Technologies, Inc. This report applies only to the samples analyzed. ATI is accredited by the U.S. National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis (Laboratory ID No. 1250) and is also accredited by the American Industrial Hygiene Association (Laboratory ID No. 9133). In accordance with federal regulations, this report must not be used by clients of ATI to claim product endorsement by NVLAP or any agency of the U.S. Government.



Accession: 504310
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 1374
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A21374001
002	04-APR-95 N/S	26-APR-95	A21374001
003	04-APR-95 N/S	27-APR-95	A21374002
004	04-APR-95 N/S	27-APR-95	A21374002
005	04-APR-95 N/S	27-APR-95	A21374003

Physical Description

- 001
- 002
- 003
- 004
- 005

Asbestos	Morphology	Color	Extn	SOE	Plchrc	App Ref Ind	Bir
						Paral Perp	
TREMOLITE ASBESTOS (%)	STRAIGHT	WHITE	P,O	+		1.62 1.60	HIGH

Extn = Extinction
 SOE = Signs of Elongation
 Plchrc = Pleiochroic
 App Ref Ind = Approximate Refractive Index
 Paral = Parallel
 Perp = Perpendicular
 Bir = Birefringence

Accession: 504310
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 1374
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
006	04-APR-95 N/S	27-APR-95	A21374003

Physical Description

006

Asbestos	Morphology	Color	Extn	SOE	Plchrc	App Ref Ind	Bir
						Paral Perp	

- Extn = Extinction
- SOE = Signs of Elongation
- Plchrc = Pleiochroic
- App Ref Ind = Approximate Refractive Index
- Paral = Parallel
- Perp = Perpendicular
- Bir = Birefringence

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.

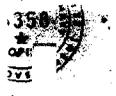
3. Operating temperature: 20 degrees F to 100 degrees F

4. Radioactive Source: 40 millicuries Cobalt -57 isotope

5. Weight: console (9 lb) scanner (3.5 lb)



APPENDIX C
XRF DATA SHEETS



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
 NAS Pensacola, Fl. 32508-6500
 Phone 904-452-3642/4758
 Autovon 922-3642

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

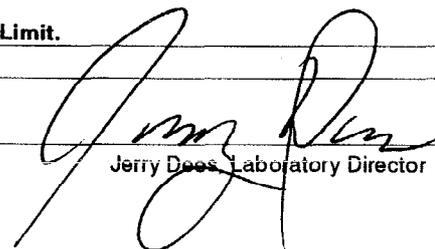
Lab ID Number: 9505016 C
 Sample Date: 30 Mar 95
 Received Date: 7 Apr 95
 Sample Site: NAS Key West
 Job Order #: 160 4002

Sample ID#	Lab	1- 51989	2- 51990	3- 51991	4- 51992	Analyst(s):								
Sample Name	Requester	#2017S Bldg 1374	#2018S Bldg 149	#2019S Bldg 261	#2020S Bldg 284	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	1- 51989		10 X	2- 51990		10 X	3- 51991		10 X	4- 51992		10 X	
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	140 mg/kg	10 X	120 mg/kg	10 X	180 mg/kg	10 X	180 mg/kg	10 X	10	None

Sample ID#	Lab	5- 51993	6- 51994	7-	8-	Analyst(s):								
Sample Name	Requester	#2021S Bldg 795	#2022S Bldg 1276			Brian Nelson								
Collector Name		Holstead	Holstead											
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @											
Sample Type	Comp/Grab	Grab	Grab											
Sample Matrix		Soil	Soil											
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	5- 51993		10 X	6- 51994		10 X	7-		10	8-		10	
Lead(Pb)	EPA 6010A	X	170 mg/kg	10 X	770 mg/kg	10 X	mg/kg	10	mg/kg	10	mg/kg	10	10	None

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

Approved by:


 Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:41



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 4080**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
BUILDING 4080			
HOMO B/BUILT-UP ROOF ASSUMED	ROOF	800 ft²	GOOD NON LOW

* 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.
- (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.

1.4.4 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 building 4080 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.

Building 4080

Exterior: NONE

Interior: NONE

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 795, 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 building 795 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
BUILDING 4080		
#2016S/SOUTHSIDE	20%	30 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**



Departmental Approval

Accession: 504311
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 4080
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

Date: _____
Analyzed by: Suzanne J. Whitlock

Accession: 504311
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 4080
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

Lab Id	Sample Date	Analysis Date	Client Sample Id
001	04-APR-95 N/S	26-APR-95	A2408001
002	04-APR-95 N/S	26-APR-95	A2408002
003	04-APR-95 N/S	26-APR-95	A2408003

Components	Laboratory Id: 001	002	003
TOTAL FIBROUS ASBESTOS (%)	ND	ND	ND
TILE COMPONENTS (%)	100	100	100
UNIFORMITY	U	U	U
SAMPLE COLOR.	LBG	LBG	LBG
SAMPLE COLOR..	G	G	G
SAMPLE COLOR...	S	S	S

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



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Navy Public Works Center Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

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

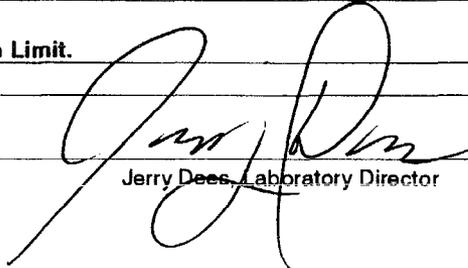
Lab ID Number: 9505016 B
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):								
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		1- 51981			2- 51982			3- 51983			4- 51984			
Lead(Pb)	EPA 6010A	X	490 mg/kg	10 X	250 mg/kg	10 X	12000 mg/kg	100 X	140 mg/kg	10				None

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):								
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER	METHOD #	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:		5- 51985			6- 51986			7- 51987			8- 51988			
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	170 mg/kg	10 X	1200 mg/kg	10 X	30 mg/kg	10				None

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

Approved by:


Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35



**LEAD AND ASBESTOS SURVEY
OF TRUMAN PIER
(MISCELLANEOUS)**

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

MAY 22, 1995

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.

HOMOGENEOUS AREA/MATERIAL	LOCATION	APPROX. QUANTITY	CONDITION FRIABILITY CONTACT
TRUMAN PIER			
NO ACM DETECTED	-	-	-

* 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.
- (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.

1.4.4 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 on the grounds of Truman Pier 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.

Truman Pier

Exterior: 1. GOOD CONDITION, YELLOW, METAL, GUARD POLE 3.9 mg/cm²
 2. GOOD CONDITION, YELLOW, ASPHALT, ROAD STRIPE 6.9 mg/cm²

Interior: NONE

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP on Truman Pier, 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 on Truman Pier 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/cm² on a screen setting (1.3 mg/cm² on test setting) were considered positive for containing lead. Values less than or equal to 1.6 mg/cm² on a screen setting (1.3 mg/cm² 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.

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).

SAMPLE #/ LOCATION	PERCENT SOIL EXPOSED	RESULTS OF ANALYSES (PPM)
TRUMAN PIER		
KW029	90%	90 mg/kg (ppm)
KW030	100%	140 mg/kg (ppm)
KW031	90%	150 mg/kg (ppm)
KW032	90%	300 mg/kg (ppm)
KW033	90%	190 mg/kg (ppm)
KW034	90%	80 mg/kg (ppm)
KW035	90%	340 mg/kg (ppm)
KW036	90%	300 mg/kg (ppm)

KW037	80%	190 mg/kg (ppm)
KW038	80%	310 mg/kg (ppm)
KW039	60%	BDL (< 10 mg/kg(ppm))
KW040	100%	90 mg/kg (ppm)
KW041	100%	300 mg/kg (ppm)
KW042	90%	60 mg/kg (ppm)
KW043	90%	90 mg/kg (ppm)
KW044	90%	130 mg/kg (ppm)
2009S	10%	490 mg/kg (ppm)
2010S	30%	250 mg/kg (ppm)
2011S	30%	12000 mg/kg (ppm)
2012S	90%	140 mg/kg (ppm)
2013S	10%	220 mg/kg (ppm)
2014S	50%	170 mg/kg (ppm)
2015S	10%	1200 mg/kg (ppm)
2016S	20%	30 mg/kg (ppm)
2017S	90%	220 mg/kg (ppm)
2018S	40%	140 mg/kg (ppm)
2019S	0%	120 mg/kg (ppm)
2020S	50%	180 mg/kg (ppm)
2021S	50%	170 mg/kg (ppm)
2022S	0%	770 mg/kg (ppm)

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D

Where were samples taken?

388
CPI

APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES



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

TRUMAN PIER 1

XRF DATA SHEET

DATE:03/23/95

Assay #	Substrate	Paint Condition	Location	Wall Number	Component	Color	Type	K-Shell mg/cm ²
=====	=====	=====	=====	=====	=====	=====	=====	=====
3	METAL	GOOD	PIER 1	GROUND	GUARD POLE	YELLOW	SCREEN	3.9
4	ASPHALT	GOOD	PIER 1	GROUND	ROAD STRIPE	YELLOW	SCREEN	6.9



**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

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

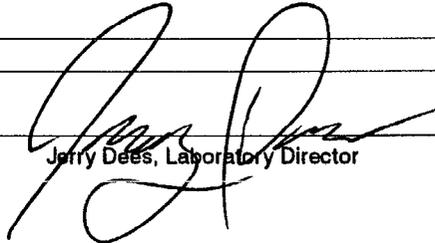
Lab ID Number: 9505020 D
Sample Date: 18 Apr 95
Received Date: 28 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 52462	2- 52463	3- 52464	4- 52465	Analyst(s):									
Sample Name	Requester	KW025 Bldg. 102		KW026 N. Bldg 105		KW027 Parking Lot B. 105		KW028 Paint Locker		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#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)	
Metals:	METHOD #	1- 52462			2- 52463			3- 52464			4- 52465				
Lead(Pb)	EPA 6010A	X	20 mg/kg	10 X	120 mg/kg	10 X	BDL mg/kg	10 X	910 mg/kg	10 X	910 mg/kg	10 X	10	None	

Sample ID#	Lab	5- 52466	6- 52467	7- 52468	8- 52469	Analyst(s):									
Sample Name	Requester	KW029 Background B. 1276		KW030 B. 1276 Rubble		KW031 B. 1276 Pump Site		KW032 B. 1276 Side 4		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#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)	
Metals:	METHOD #	5- 52466			6- 52467			7- 52468			8- 52469				
Lead(Pb)	EPA 6010A	X	90 mg/kg	10 X	140 mg/kg	10 X	150 mg/kg	10 X	300 mg/kg	10 X	300 mg/kg	10 X	10	None	

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

Approved by:


 Jerry Dees, Laboratory Director

Date/Time: 08-May-95 13:48

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

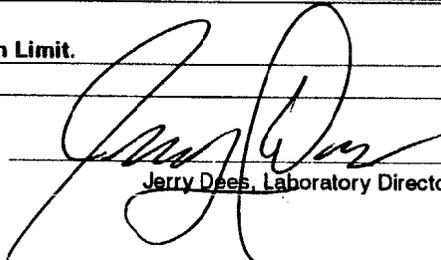
Lab ID Number: 9505020 E
Sample Date: 18 Apr 95
Received Date: 28 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 52470	2- 52471	3- 52472	4- 52473	Analyst(s): Brian Nelson						
Sample Name	Requester	KW033 B. 1276 Side 3	KW034 Sec & Dock N	KW035 Sec to B. 149	KW036 N. Bldg 261 (W.)		Date(s) of analysis: 5 May 95					
Collector Name		ML/BN	ML/BN	ML/BN	ML/BN							
Date/Time Collected (Military)	Comp start											
	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- 52470	units Limit	2- 52471	units Limit	3- 52472	units Limit	4- 52473	units Limit			
Lead(Pb)	EPA 6010A	X	190 mg/kg 10 X	80 mg/kg 10 X	340 mg/kg 10 X	300 mg/kg 10 X					None	

Sample ID#	Lab	5- 52474	6- 52475	7- 52476	8- 52477	Analyst(s): Brian Nelson						
Sample Name	Requester	KW037 B149 to B113	KW038 B. 112 E to Sec. F.	KW039 B. 84 (NEX)	KW040 W. Rubble Truman		Date(s) of analysis: 5 May 95					
Collector Name		ML/BN	ML/BN	ML/BN	DJ/LG							
Date/Time Collected (Military)	Comp start											
	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 #	5- 52474	units Limit	6- 52475	units Limit	7- 52476	units Limit	8- 52477	units Limit			
Lead(Pb)	EPA 6010A	X	190 mg/kg 10 X	310 mg/kg 10 X	BDL mg/kg 10 X	90 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 14:14

Navy Public Works Center Environmental Laboratory

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

Laboratory Report

Lead (Pb) in Soil

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

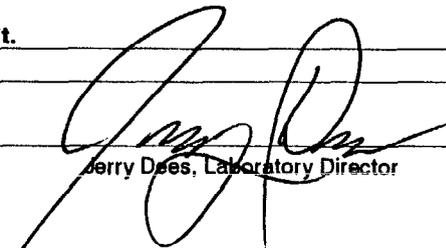
Lab ID Number: 9505020 F
Sample Date: 24 Mar & 18 Apr 95
Received Date: 28 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

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	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	mg/kg	10	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

Navy Public Works Center Environmental Laboratory

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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

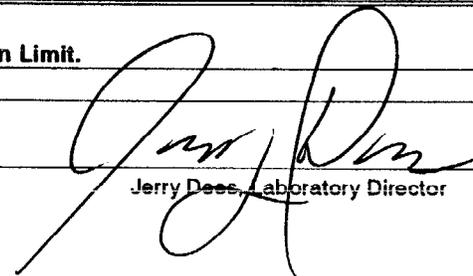
Lab ID Number: 9505016 B
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

Sample ID#	Lab	1- 51981	2- 51982	3- 51983	4- 51984	Analyst(s):								
Sample Name	Requester	#2009S Bldg 102	#2010S Bldg 103	#2011S Bldg 104	#2012S Bldg 189	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	1- 51981			2- 51982			3- 51983			4- 51984			
Lead(Pb)	EPA 6010A	X	490 mg/kg	10 X	250 mg/kg	10 X	12000 mg/kg	100 X	140 mg/kg	10	None			

Sample ID#	Lab	5- 51985	6- 51986	7- 51987	8- 51988	Analyst(s):								
Sample Name	Requester	#2013S Background	#2014S Bldg 112	#2015S Bldg 84	#2016 Bldg 4080	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	5- 51985			6- 51986			7- 51987			8- 51988			
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	170 mg/kg	10 X	1200 mg/kg	10 X	30 mg/kg	10	None			

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

Approved by:



Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:35

Navy Public Works Center Environmental Laboratory

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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

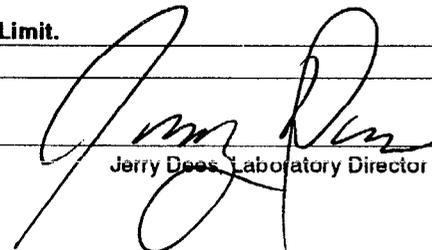
Lab ID Number: 9505016 C
 Sample Date: 30 Mar 95
 Received Date: 7 Apr 95
 Sample Site: NAS Key West
 Job Order #: 160 4002

Sample ID#	Lab	1- 51989	2- 51990	3- 51991	4- 51992	Analyst(s):								
Sample Name	Requester	#2017S Bldg 1374	#2018S Bldg 149	#2019S Bldg 261	#2020S Bldg 284	Brian Nelson								
Collector Name		Holstead	Holstead	Holstead	Holstead									
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95								
	Comp stop													
	Grab	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @	30 Mar 95 @									
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab									
Sample Matrix		Soil	Soil	Soil	Soil									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	1- 51989			2- 51990			3- 51991			4- 51992			
Lead(Pb)	EPA 6010A	X	220 mg/kg	10 X	140 mg/kg	10 X	120 mg/kg	10 X	180 mg/kg	10				None

Sample ID#	Lab	5- 51993	6- 51994	7-	8-	Analyst(s):									
Sample Name	Requester	#2021S Bldg 795	#2022S Bldg 127			Brian Nelson									
Collector Name		Holstead	Holstead												
Date/Time Collected (Military)	Comp start					Date(s) of analysis: 2 May 95									
	Comp stop														
	Grab	30 Mar 95 @	30 Mar 95 @												
Sample Type	Comp/Grab	Grab	Grab												
Sample Matrix		Soil	Soil												
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)	
Metals:	METHOD #	5- 51993			6- 51994			7-			8-				
Lead(Pb)	EPA 6010A	X	170 mg/kg	10 X	770 mg/kg	10			mg/kg	10			mg/kg	10	None

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

Approved by:


 Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:41