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

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LEAD AND ASBESTOS SURVEY
OF
TRUMBO POINT PIER
NVSTA KEY WEST, FLORIDA
5/21

INSPECTION PERFORMED BY
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

MAY 22, 1995

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TRUMBO POINT

| <u>BUILDING</u> | <u>DRAWING #</u> | <u>DESCRIPTION</u> |
|-----------------|--------------------------------------|--------------------|
| 27 | FLOOR PLAN ONLY | |
| 28 | NAVFAC DWG 5179607 | |
| 45 | NAVFAC DWG 5083587 | COAST GUARD B-108 |
| 48 | NAVFAC DWG 5027707, 5027708, 5027728 | |
| MISCELLANEOUS | NAVFAC DWG 5083587 | PIER AREA |



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 27**

**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 27 | | | |
| HOMO C/9"x9" GREEN FLOOR TILE | ROOM 383 | 300 ft ² | FAIR NON HIGH |
| HOMO D/ 9"x9" BLACK FLOOR TILE | ROOM 383 | 600 ft ² | FAIR NON HIGH |
| HOMO E/ 9"x9" GREY FLOOR TILE | ROOM 383 | 300 ft ² | FAIR NON HIGH |
| HOMO L/ TRANSITE SIDING ASSUMED | ROOM 174 | 200 ft ² | GOOD NON HIGH |
| HOMO M/ ELECTRICAL WIRING ASSUMED | INTERIOR | UNKNOWN | UNKNOWN |

* 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 27 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 27

Exterior: 1. POOR CONDITION, WHITE, WOOD, SOFFIT 4.6 mg/cm²

| | | |
|-----------|---|-------------------------|
| Interior: | 2. POOR CONDITION, GREEN, WOOD, CEILING | 31.4 mg/cm ² |
| | 3. POOR CONDITION, GREY, CONCRETE, FLOOR | 3.3 mg/cm ² |
| | 4. POOR CONDITION, RED, WOOD, COLUMN | 28.4 mg/cm ² |
| | 5. POOR CONDITION, GREY, WOOD, COLUMN | 29.2 mg/cm ² |
| | 6. POOR CONDITION, GREEN, WOOD, WALL | 1.7 mg/cm ² |
| | 7. POOR CONDITION, BLUE, WOOD, COLUMN | 11.6 mg/cm ² |
| | 8. POOR CONDITION, YELLOW, WOOD, COLUMN | 11.3 mg/cm ² |
| | 9. POOR CONDITION, YELLOW, CONC., COLUMN | 6.4 mg/cm ² |
| | 10. POOR CONDITION, RED, WOOD, COLUMN | 28.0 mg/cm ² |
| | 11. POOR CONDITION, BROWN, WOOD, COLUMN | 23.1 mg/cm ² |
| | 12. POOR CONDITION, GREEN, CONCRETE, WALL | 3.8 mg/cm ² |

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 27, 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 27 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.

| LOCATION SAMPLED | PERCENT SOIL EXPOSED | RESULTS OF ANALYSES (PPM) |
|-----------------------------|---------------------------------|--------------------------------------|
| BUILDING 27 | | |
| NO SOIL SAMPLES | CONCRETE | - |

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D



APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES



Departmental Approval

Accession: 504295
Client: US NAVY PUBLIC WORKS CENTER
Project Number: JOB NO. 1026002
Project Name: U. S. NAVAL AIR STATION, BUILDING 27
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: 14 APR 95

Analyzed by: Suzanne J. Wlodarski

Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 11-APR-95 | A227001 | | | |
| 002 | 04-APR-95 N/S | 11-APR-95 | A227002 | | | |
| 003 | 04-APR-95 N/S | 11-APR-95 | A227003 | | | |
| 004 | 04-APR-95 N/S | 11-APR-95 | B227004 | | | |
| 005 | 04-APR-95 N/S | 11-APR-95 | B227004 | | | |
| Components | | Laboratory Id: 001 002 003 004 005 | | | | |
| TOTAL FIBROUS ASBESTOS (%) | | ND | ND | ND | ND | ND |
| CELLULOSE FIBERS (%) | | 60 | 60 | 60 | 10 | |
| PLASTIC FIBERS (%) | | | | | | 15 |
| TAR (%) | | 40 | 40 | 40 | | |
| TILE COMPONENTS (%) | | | | | 90 | |
| MASTIC (%) | | | | | | 85 |
| UNIFORMITY | | U | U | U | U | U |
| SAMPLE COLOR. | | B | B | B | BR | B |
| SAMPLE COLOR.. | | | | | O | |
| SAMPLE COLOR... | | | | | S | |

Sample of what?

Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 11-APR-95 | B227005 | | | | |
| 007 | 04-APR-95 N/S | 11-APR-95 | B227005 | | | | |
| 008 | 04-APR-95 N/S | 11-APR-95 | B227006 | | | | |
| 009 | 04-APR-95 N/S | 11-APR-95 | B227006 | | | | |
| 010 | 04-APR-95 N/S | 11-APR-95 | C227007 | | | | |
| Components | | | Laboratory Id: 006 | 007 | 008 | 009 | 010 |
| CHRYSOTILE ASBESTOS (%) | | | | | | | 20 |
| TOTAL FIBROUS ASBESTOS (%) | | | ND | ND | ND | ND | 20 |
| CELLULOSE FIBERS (%) | | | 10 | | 10 | | |
| PLASTIC FIBERS (%) | | | | 15 | | 15 | |
| TILE COMPONENTS (%) | | | 90 | | 90 | | 80 |
| MASTIC (%) | | | | 85 | | 85 | |
| UNIFORMITY | | | U | U | U | U | U |
| SAMPLE COLOR. | | | BR | B | BR | B | GR |
| SAMPLE COLOR.. | | | S | | S | | W |
| SAMPLE COLOR... | | | | | | | S |

Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 11-APR-95 | C227007 |
| 012 | 04-APR-95 N/S | | C227008 |
| 013 | 04-APR-95 N/S | 11-APR-95 | C227008 |
| 014 | 04-APR-95 N/S | | C227009 |
| 015 | 04-APR-95 N/S | 11-APR-95 | C227009 |

| Components | Laboratory Id: | 011 | 012 | 013 | 014 | 015 |
|----------------------------|----------------|-----|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | <1 | | | | 10 |
| TOTAL FIBROUS ASBESTOS (%) | | <1 | | ND | | 10 |
| MASTIC (%) | | 99 | | 100 | | 90 |
| UNIFORMITY | | U | | U | | U |
| SAMPLE COLOR. | | B | | B | | B |

Remarks:

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



Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 11-APR-95 | D227010 |
| 017 | 04-APR-95 N/S | 11-APR-95 | D227010 |
| 018 | 04-APR-95 N/S | | D227011 |
| 019 | 04-APR-95 N/S | 11-APR-95 | D227011 |
| 020 | 04-APR-95 N/S | | D227012 |

| Components | Laboratory Id: 016 | 017 | 018 | 019 | 020 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | 20 | <1 | | | |
| TOTAL FIBROUS ASBESTOS (%) | 20 | <1 | | ND | |

| | | | | | |
|---------------------|----|----|--|-----|--|
| TILE COMPONENTS (%) | 80 | | | | |
| MASTIC (%) | | 99 | | 100 | |

| | | | | | |
|---------------|---|---|---|--|--|
| UNIFORMITY | U | U | U | | |
| SAMPLE COLOR. | B | B | B | | |

Remarks:

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

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Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 11-APR-95 | D227012 | | | |
| 022 | 04-APR-95 N/S | 11-APR-95 | E227013 | | | |
| 023 | 04-APR-95 N/S | 11-APR-95 | E227013 | | | |
| 024 | 04-APR-95 N/S | | E227014 | | | |
| 025 | 04-APR-95 N/S | 11-APR-95 | E227014 | | | |
| Components | | Laboratory Id: 021 | 022 | 023 | 024 | 025 |
| CHRYSOTILE ASBESTOS (%) | | | 20 | | | |
| TOTAL FIBROUS ASBESTOS (%) | | ND | 20 | ND | | ND |
| MASTIC (%) | | 100 | | 100 | | 100 |
| TILE COMPONENTS (%) | | | 80 | | | |
| UNIFORMITY | | U | U | U | | U |
| SAMPLE COLOR. | | B | G | B | | B |

Remarks:

024 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

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Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | E227015 |
| 027 | 04-APR-95 | N/S | 11-APR-95 E227015 |
| 028 | 04-APR-95 | N/S | 11-APR-95 F227016 |
| 029 | 04-APR-95 | N/S | 11-APR-95 F227016 |
| 030 | 04-APR-95 | N/S | 11-APR-95 F227016 |

| Components | Laboratory Id: 026 | 027 | 028 | 029 | 030 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | <1 | | | |
| TOTAL FIBROUS ASBESTOS (%) | | <1 | ND | ND | ND |
| MASTIC (%) | | 99 | | 100 | 100 |
| TILE COMPONENTS (%) | | | 100 | | |
| UNIFORMITY | | U | U | U | U |
| SAMPLE COLOR. | | B | BL | T | B |
| SAMPLE COLOR.. | | | W | | |
| SAMPLE COLOR... | | | S | | |

Remarks:

026 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

3

356
IV

Accession: 504295
Client: US NAVY PUBLIC WORKS CENTER
Project Number: JOB NO. 1026002
Project Name: U. S. NAVAL AIR STATION, BUILDING 27
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 | 11-APR-95 | F227017 | | | |
| 032 | 04-APR-95 N/S | 11-APR-95 | F227017 | | | |
| 033 | 04-APR-95 N/S | 11-APR-95 | F227018 | | | |
| 034 | 04-APR-95 N/S | 11-APR-95 | F227018 | | | |
| 035 | 04-APR-95 N/S | 11-APR-95 | F227018 | | | |
| Components | | Laboratory Id: 031 | 032 | 033 | 034 | 035 |
| TOTAL FIBROUS ASBESTOS (%) | | ND | ND | ND | ND | ND |
| TILE COMPONENTS (%) | | 100 | | 100 | | |
| MASTIC (%) | | | 100 | | 100 | 100 |
| UNIFORMITY | | U | U | U | U | U |
| SAMPLE COLOR. | | BL | T | BL | T | B |
| SAMPLE COLOR.. | | W | | W | | |
| SAMPLE COLOR... | | S | | S | | |

Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 11-APR-95 | G227019 |
| 037 | 04-APR-95 N/S | 11-APR-95 | G227020 |
| 038 | 04-APR-95 N/S | 11-APR-95 | G227021 |
| 039 | 04-APR-95 N/S | 12-APR-95 | H227022 |
| 040 | 04-APR-95 N/S | 12-APR-95 | H227023 |

| Components | Laboratory Id: 036 | 037 | 038 | 039 | 040 |
|----------------------------|--------------------|-----|-----|-----|-----|
| TOTAL FIBROUS ASBESTOS (%) | ND | ND | ND | ND | ND |
| TILE COMPONENTS (%) | 100 | 100 | 100 | 100 | 100 |
| UNIFORMITY | U | U | U | U | U |
| SAMPLE COLOR. | T | T | T | I | I |
| SAMPLE COLOR.. | BR | BR | BR | T | T |
| SAMPLE COLOR... | I | I | I | S | S |
| SAMPLE COLOR.... | S | S | S | | |



Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 12-APR-95 | H227024 | | | |
| 042 | 04-APR-95 | N/S | 12-APR-95 | I227025 | | | |
| 043 | 04-APR-95 | N/S | 12-APR-95 | I227026 | | | |
| 044 | 04-APR-95 | N/S | 12-APR-95 | I227027 | | | |
| 045 | 04-APR-95 | N/S | 12-APR-95 | J227028 | | | |
| Components | | Laboratory Id: 041 | | 042 | 043 | 044 | 045 |
| TOTAL FIBROUS ASBESTOS (%) | | ND | ND | ND | ND | ND | ND |
| CELLULOSE FIBERS (%) | | | 10 | 10 | 10 | 2 | |
| GLASS FIBERS (%) | | | 5 | 5 | 5 | 2 | |
| TILE COMPONENTS (%) | | 100 | | | | | |
| DIATOMS (%) | | | 10 | 10 | 10 | | |
| MORTAR/PLASTER (%) | | | 55 | 55 | 55 | 96 | |
| SAND (%) | | | 20 | 20 | 20 | | |
| UNIFORMITY | | U | L | L | L | L | |
| SAMPLE COLOR. | | I | W | W | W | W | |
| SAMPLE COLOR.. | | T | BR | BR | BR | G | |
| SAMPLE COLOR... | | S | | | | BG | |

Accession: 504295
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: JOB NO. 1026002
 Project Name: U. S. NAVAL AIR STATION, BUILDING 27
 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 | 12-APR-95 | J227029 | | | |
| 047 | 04-APR-95 N/S | 12-APR-95 | J227030 | | | |
| 048 | 04-APR-95 N/S | 12-APR-95 | K227031 | | | |
| 049 | 04-APR-95 N/S | 12-APR-95 | K227032 | | | |
| 050 | 04-APR-95 N/S | 12-APR-95 | K227033 | | | |
| Components | | Laboratory Id: 046 | 047 | 048 | 049 | 050 |
| TOTAL FIBROUS ASBESTOS (%) | | ND | ND | ND | ND | ND |
| CELLULOSE FIBERS (%) | | 2 | 2 | 30 | | |
| GLASS FIBERS (%) | | 2 | 5 | 20 | 25 | 25 |
| MORTAR/PLASTER (%) | | 96 | 93 | | | |
| TAR (%) | | | | 50 | 52 | 52 |
| GRAVEL (%) | | | | | 20 | 20 |
| SAND (%) | | | | | 3 | 3 |
| UNIFORMITY | | L | L | U | L | L |
| SAMPLE COLOR. | | W | W | B | W | W |
| SAMPLE COLOR.. | | G | G | | G | G |
| SAMPLE COLOR... | | BG | BG | | B | B |
| SAMPLE COLOR.... | | | | | B | B |
| SAMPLE COLOR..... | | | | | B | B |

Sample of what?

Only floor tile reportedly sampled.

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

3354

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 27

XRF DATA SHEET

DATE:03/30/95

| Assay # | Substrate | Paint Condition | Location | Wall Number | Component | Color | Type | K-Shell mg/cm ² |
|---------|-----------|-----------------|-----------|----------------|-----------|-------------|--------|----------------------------|
| 6 | WOOD | POOR | ROOM 818A | CEILING | CEILING | LIGHT GREEN | SCREEN | 31.4 |
| 7 | CONCRETE | POOR | ROOM 818A | FLOOR | FLOOR | DECK GREY | SCREEN | 3.3 |
| 9 | WOOD | POOR | ROOM 348 | 1 | COLUMN | RED | SCREEN | 28.4 |
| 11 | WOOD | POOR | ROOM 348 | 1 | COLUMN | LIGHT GREY | SCREEN | 29.2 |
| 13 | WOOD | POOR | ROOM 348 | 2 | WALL | GREEN | TEST | 1.7 |
| 16 | WOOD | POOR | ROOM 1507 | 3 | COLUMN | BLUE | SCREEN | 11.6 |
| 17 | WOOD | POOR | ROOM 1507 | 3 | COLUMN | YELLOW | SCREEN | 11.3 |
| 19 | CONCRETE | POOR | ROOM 2018 | FLOOR | COLUMN | YELLOW | SCREEN | 6.4 |
| 27 | WOOD | POOR | ROOM 2866 | CENTER OF BLDG | COLUMN | RED | SCREEN | 28.0 |
| 30 | WOOD | POOR | ROOM 76 | 3 | COLUMN | BROWN | SCREEN | 23.1 |
| 38 | CONCRETE | POOR | ROOM 1654 | 4 | WALL | GREEN | TEST | 3.8 |
| 43 | WOOD | POOR | EXTERIOR | 3 | SOFFIT | WHITE | SCREEN | 4.6 |

So what to do?

**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**



**LEAD AND ASBESTOS SURVEY
OF
BUILDING 28**

**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 28 | | | |
| HOMO E/ 9"x9" TAN FLOOR TILE | ROOMS 69, 162 | 250 ft ² | FAIR NON HIGH |
| HOMO G/ 9"x9" BLACK FLOOR TILE | ROOMS 77, 101, 624, 657 | 2600 ft ² | FAIR NON HIGH |
| HOMO I/ CONDENSATE BARRIER FELT PAPER | ROOM 1924 | 1364 ft ² | FAIR NON LOW |
| HOMO L/ ROOF TAR (NOT IN FELT OR SHINGLES) | ROOF | 20,000 ft ² | GOOD NON MOD |
| HOMO M/ FIREDOORS ASSUMED | BETWEEN ROOMS 853 & 167 | UNKNOWN | GOOD NON LOW |
| HOMO N/ BUILT-UP ROOF ASSUMED | OVER ROOMS 167, 853 | 1000 ft ² | GOOD NON LOW |
| HOMO O/ ELECTRICAL WIRING ASSUMED | INTERIOR | UNKNOWN | UNKNOWN |



* 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 28 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 28

Exterior: NONE

| | | |
|-----------|--|------------------------|
| Interior: | 1. GOOD CONDITION, YELLOW, METAL, VALVE | 2.5 mg/cm ² |
| | 2. POOR CONDITION, GREY, METAL, DOOR | 9.5 mg/cm ² |
| | 3. POOR CONDITION, GREEN, CONCRETE, WALL | 6.9 mg/cm ² |
| | 4. POOR CONDITION, PRIMER, METAL, BEAM | 6.9 mg/cm ² |
| | 5. GOOD CONDITION, CREAM, TILE, WALL | 9.9 mg/cm ² |
| | 6. POOR CONDITION, GREEN, CONCRETE, WALL | 1.8 mg/cm ² |

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 28, 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 28 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.

What about poor?

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

buildings and associated grounds.

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

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

| SAMPLE #/ LOCATION | PERCENT SOIL EXPOSED | RESULTS OF ANALYSES (PPM) |
|-----------------------|-------------------------|------------------------------|
| BUILDING 28 | | |
| #2022S/ SOUTHSIDE | 0% | 770 mg/kg (ppm) |

* FOR LAB ANALYSES OF SOIL SAMPLES SEE APPENDIX D

*So what do
we do?*

**APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES**

Departmental Approval

Accession: 504296
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 28
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

Peter Shuba Date: April 21, 1995

Analyzed by: Suzanne J. Wlosik

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 12-APR-95 | A228001 | | | | |
| 002 | 04-APR-95 N/S | 12-APR-95 | A228002 | | | | |
| 003 | 04-APR-95 N/S | 12-APR-95 | A228003 | | | | |
| 004 | 04-APR-95 N/S | 14-APR-95 | B228004 | | | | |
| 005 | 04-APR-95 N/S | 14-MAY-95 | B228005 | | | | |
| Components | | | Laboratory Id: 001 | 002 | 003 | 004 | 005 |
| TOTAL FIBROUS ASBESTOS (%) | | | ND | ND | ND | ND | ND |
| CELLULOSE FIBERS (%) | | | 80 | 80 | 85 | | |
| WOOD FIBERS (%) | | | 8 | 8 | 8 | | |
| GLASS FIBERS (%) | | | | | | 9 | 9 |
| MORTAR/PLASTER (%) | | | 10 | 10 | 5 | 80 | 75 |
| TAR (%) | | | 2 | 2 | 2 | | |
| DIATOMS (%) | | | | | | 10 | 15 |
| PAINT (%) | | | | | | <1 | <1 |
| UNIFORMITY | | | L | L | L | L | L |
| SAMPLE COLOR. | | | G | G | G | W | W |
| SAMPLE COLOR.. | | | B | B | B | GR | GR |
| SAMPLE COLOR... | | | BR | BR | BR | | G |
| SAMPLE COLOR.... | | | BR | BR | BR | | |
| SAMPLE COLOR..... | | | BR | BR | BR | | |
| SAMPLE COLOR..... | | | B | B | B | | |

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 14-APR-95 | B228006 | | | |
| 007 | 04-APR-95 N/S | 14-APR-95 | C228007 | | | |
| 008 | 04-APR-95 N/S | 14-APR-95 | C228008 | | | |
| 009 | 04-APR-95 N/S | 14-APR-95 | C228009 | | | |
| 010 | 04-APR-95 N/S | 14-APR-95 | D228010 | | | |
| Components | | Laboratory Id: 006 | 007 | 008 | 009 | 010 |
| TOTAL FIBROUS ASBESTOS (%) | | ND | ND | ND | ND | ND |
| GLASS FIBERS (%) | | 9 | | | | |
| WOOD FIBERS (%) | | | 90 | 90 | 99 | |
| DIATOMS (%) | | 15 | | | | |
| MORTAR/PLASTER (%) | | 75 | | | | |
| PAINT (%) | | <1 | 10 | 10 | <1 | |
| TILE COMPONENTS (%) | | | | | | 100 |
| UNIFORMITY | | L | L | L | N | U |
| SAMPLE COLOR. | | W | W | W | BR | BL |
| SAMPLE COLOR.. | | GR | BR | BR | W | W |
| SAMPLE COLOR... | | G | | | | S |

what is this a sample of?

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 14-APR-95 | D228011 |
| 012 | 04-APR-95 N/S | 14-APR-95 | D228012 |
| 013 | 04-APR-95 N/S | 14-APR-95 | E228013 |
| 014 | 04-APR-95 N/S | 14-APR-95 | E228013 |
| 015 | 04-APR-95 N/S | | E228013 |

| Components | Laboratory Id: 011 | 012 | 013 | 014 | 015 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | | 2 | | |
| TOTAL FIBROUS ASBESTOS (%) | ND | ND | 2 | ND | |
| TILE COMPONENTS (%) | 100 | 100 | 98 | | |
| MASTIC (%) | | | | 100 | |
| UNIFORMITY | U | U | U | U | |
| SAMPLE COLOR. | BL | BL | T | T | |
| SAMPLE COLOR.. | W | W | I | | |
| SAMPLE COLOR... | S | S | S | | |

Remarks:

015 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 14-APR-95 | E228013 |
| 017 | 04-APR-95 N/S | | E228014 |
| 018 | 04-APR-95 N/S | 14-APR-95 | E228014 |
| 019 | 04-APR-95 N/S | 14-APR-95 | F228016 |
| 020 | 04-APR-95 N/S | 14-APR-95 | F228016 |

| Components | Laboratory Id: 016 | 017 | 018 | 019 | 020 |
|----------------------------|--------------------|-----|-----|-----|-----|
| TREMOLITE ASBESTOS (%) | | | | <1 | |
| TOTAL FIBROUS ASBESTOS (%) | ND | | ND | <1 | ND |

| | | | | | |
|----------------------|-----|--|-----|----|-----|
| CELLULOSE FIBERS (%) | | | | 5 | |
| MASTIC (%) | 100 | | 100 | | 100 |
| TILE COMPONENTS (%) | | | | 94 | |

| | | | | | |
|------------------|---|--|---|---|---|
| UNIFORMITY | U | | U | U | U |
| SAMPLE COLOR. | T | | T | G | T |
| SAMPLE COLOR.. | | | | B | |
| SAMPLE COLOR... | | | | W | |
| SAMPLE COLOR.... | | | | S | |

Remarks:

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

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 14-APR-95 | F228017 |
| 022 | 04-APR-95 N/S | 14-APR-95 | F228017 |
| 023 | 04-APR-95 N/S | 14-APR-95 | F228018 |
| 024 | 04-APR-95 N/S | 14-APR-95 | F228018 |
| 025 | 04-APR-95 N/S | 14-APR-95 | G228019 |

| Components | Laboratory Id: 021 | 022 | 023 | 024 | 025 |
|----------------------------|--------------------|-----|-----|-----|-----|
| TREMOLITE ASBESTOS (%) | <1 | | <1 | | |
| CHRYBOTILE ASBESTOS (%) | | | | | 3 |
| TOTAL FIBROUS ASBESTOS (%) | <1 | ND | <1 | ND | 3 |

| | | | | | |
|--------------------------|----|-----|----|-----|----|
| CELLULOSE FIBERS (%) | 5 | | 5 | | 5 |
| TILE COMPONENTS (%) | 94 | | 93 | | 92 |
| MASTIC (%) | | 100 | | 100 | |
| NONFIBROUS TREMOLITE (%) | | | <1 | | |

| | | | | | |
|------------------|---|---|---|---|---|
| UNIFORMITY | U | U | U | U | U |
| SAMPLE COLOR. | G | T | G | T | B |
| SAMPLE COLOR.. | B | | B | | W |
| SAMPLE COLOR... | W | | W | | S |
| SAMPLE COLOR.... | S | | S | | |

Remarks:

021 ASPECT RATIO OF FIBROUS TREMOLITE IS 3:1 OR GREATER.
 023 ASPECT RATIO OF FIBROUS TREMOLITE IS 3:1 OR GREATER.



Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 14-APR-95 | G228019 | | | | | | |
| 027 | 04-APR-95 N/S | | G228020 | | | | | | |
| 028 | 04-APR-95 N/S | 14-APR-95 | G228020 | | | | | | |
| 029 | 04-APR-95 N/S | | G228021 | | | | | | |
| 030 | 04-APR-95 N/S | 14-APR-95 | G228021 | | | | | | |
| Components | | | | Laboratory Id: | 026 | 027 | 028 | 029 | 030 |
| TOTAL FIBROUS ASBESTOS (%) | | | | ND | | ND | | ND | |
| MASTIC (%) | | | | 100 | | 100 | | 100 | |
| UNIFORMITY | | | | U | | U | | U | |
| SAMPLE COLOR. | | | | Y | | Y | | Y | |

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.

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 14-APR-95 | H228022 |
| 032 | 04-APR-95 N/S | 14-APR-95 | H228022 |
| 033 | 04-APR-95 N/S | 14-APR-95 | H228023 |
| 034 | 04-APR-95 N/S | 14-APR-95 | I228025 |
| 035 | 04-APR-95 N/S | | I228026 |

| Components | Laboratory Id: 031 | 032 | 033 | 034 | 035 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYSTOLE ASBESTOS (%) | | | | 8 | |
| TOTAL FIBROUS ASBESTOS (%) | ND | ND | ND | 8 | |
| WOOD FIBERS (%) | 99 | 99 | 99 | | |
| CELLULOSE FIBERS (%) | | | | 50 | |
| PAINT (%) | <1 | <1 | <1 | | |
| TAR (%) | | | | 42 | |
| UNIFORMITY | L | L | L | L | |
| SAMPLE COLOR. | I | I | I | B | |
| SAMPLE COLOR.. | BR | BR | BR | B | |
| SAMPLE COLOR... | | | | B | |

Remarks:

034 5% OR GREATER ASBESTOS IS LOCATED IN ALL THE LAYERS.
 035 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Sample of what?

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | | I228027 | | | | |
| 037 | 04-APR-95 N/S | 14-APR-95 | J228028 | | | | |
| 038 | 04-APR-95 N/S | 14-APR-95 | J228028 | | | | |
| 039 | 04-APR-95 N/S | 17-APR-95 | J228029 | | | | |
| 040 | 04-APR-95 N/S | 17-APR-95 | J228029 | | | | |
| Components | | | Laboratory Id: 036 | 037 | 038 | 039 | 040 |
| TREMOLITE ASBESTOS (%) | | | | <1 | | <1 | |
| TOTAL FIBROUS ASBESTOS (%) | | | | <1 | ND | <1 | ND |
| NONFIBROUS TREMOLITE (%) | | | | <1 | | <1 | |
| TILE COMPONENTS (%) | | | | 98 | | 98 | |
| MASTIC (%) | | | | | 100 | | 100 |
| UNIFORMITY | | | | U | U | U | U |
| SAMPLE COLOR. | | | | LBR | T | LBR | T |
| SAMPLE COLOR.. | | | | DBR | | DBR | |
| SAMPLE COLOR... | | | | W | | W | |
| SAMPLE COLOR.... | | | | S | | O | |
| SAMPLE COLOR..... | | | | | | S | |

Remarks:

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

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 17-APR-95 | J228030 |
| 042 | 04-APR-95 N/S | 17-APR-95 | J228030 |
| 043 | 04-APR-95 N/S | 17-APR-95 | K228031 |
| 044 | 04-APR-95 N/S | 17-APR-95 | K228032 |
| 045 | 04-APR-95 N/S | 17-APR-95 | K228033 |

| Components | Laboratory Id: 041 | 042 | 043 | 044 | 045 |
|----------------------------|--------------------|-----|-----|-----|-----|
| TREMOLITE ASBESTOS (%) | <1 | | | | |
| TOTAL FIBROUS ASBESTOS (%) | <1 | ND | ND | ND | ND |

| | | | | | |
|--------------------------|----|-----|----|----|----|
| CELLULOSE FIBERS (%) | | | 50 | 50 | 50 |
| GLASS FIBERS (%) | | | 15 | 15 | 15 |
| NONFIBROUS TREMOLITE (%) | <1 | | | | |
| TILE COMPONENTS (%) | 98 | | | | |
| MASTIC (%) | | 100 | | | |
| BINDER (%) | | | 5 | 5 | 5 |
| DIATOMS (%) | | | <1 | <1 | <1 |
| PAINT (%) | | | <1 | <1 | <1 |
| PERLITE (%) | | | 28 | 28 | 28 |

| | | | | | |
|-------------------|-----|---|---|---|---|
| UNIFORMITY | U | U | L | L | L |
| SAMPLE COLOR. | LBR | T | W | W | W |
| SAMPLE COLOR.. | DBR | | W | W | W |
| SAMPLE COLOR... | W | | | | |
| SAMPLE COLOR.... | O | | | | |
| SAMPLE COLOR..... | S | | | | |

Remarks:

041 ASPECT RATIO OF FIBROUS TREMOLITE IS 3:1 OR GREATER.

Accession: 504296
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 28
 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 | 17-APR-95 | L228034 |
| 047 | 04-APR-95 N/S | 17-APR-95 | L228034 |
| 048 | 04-APR-95 N/S | 17-APR-95 | L228035 |
| 049 | 04-APR-95 N/S | 17-APR-95 | L228035 |
| 050 | 04-APR-95 N/S | 17-APR-95 | L228036 |

| Components | Laboratory Id: 046 | 047 | 048 | 049 | 050 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | 5 | | | |
| TOTAL FIBROUS ASBESTOS (%) | ND | 5 | ND | | ND |

| | | | | | |
|-------------------|----|----|----|--|----|
| GLASS FIBERS (%) | 15 | 40 | 15 | | 15 |
| GRAVEL (%) | 10 | | 10 | | 3 |
| GROUND GLASS (%) | 10 | | 10 | | 12 |
| PLASTIC SHEET (%) | <1 | | <1 | | |
| TAR (%) | 64 | 55 | 64 | | 60 |
| SAND (%) | | | | | 10 |

| | | | | | |
|-------------------|---|---|---|--|---|
| UNIFORMITY | L | L | L | | L |
| SAMPLE COLOR. | B | B | B | | W |
| SAMPLE COLOR.. | W | | B | | T |
| SAMPLE COLOR... | G | | B | | B |
| SAMPLE COLOR.... | B | | W | | B |
| SAMPLE COLOR..... | B | | G | | B |
| SAMPLE COLOR..... | C | | B | | B |
| SAMPLE COLOR..... | | | B | | |
| SAMPLE COLOR..... | | | B | | |
| SAMPLE COLOR..... | | | C | | |

Remarks:

047 ASBESTOS IS LOCATED IN THE BLACK TAR NOT IN THE WOVEN FABRIC.
 049 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504296
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 28
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 | | L228036 |

Components Laboratory Id: 051

TOTAL FIBROUS ASBESTOS (%)

Remarks:

051 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

O N A / Q Q
Samples?

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 28

XRF DATA SHEET

DATE:03/29/95

| Assay # | Substrate | Paint Condition | Location | Wall Number | Component | Color | Type | K-Shell mg/cm ² |
|---------|-----------|-----------------|----------------|-------------|-----------|--------|--------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== |
| 4 | METAL | GOOD | ROOM 853 | 4 | VALVE | YELLOW | SCREEN | 2.5 |
| 6 | METAL | POOR | ROOM 853 | 1 | DOOR | GREY | SCREEN | 9.5 |
| 7 | CONCRETE | POOR | ROOM 864B | 2 | WALL | GREEN | SCREEN | 6.9 |
| 8 | METAL | POOR | ROOM 864B | 2 | BEAM | PRIMER | SCREEN | 6.9 |
| 27 | TILE | GOOD | RESTROOM | 1 | WALL | CREAM | SCREEN | 9.9 |
| 38 | CONCRETE | POOR | ROOM 474 (A/C) | 3 | WALL | GREEN | SCREEN | 1.8 |



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

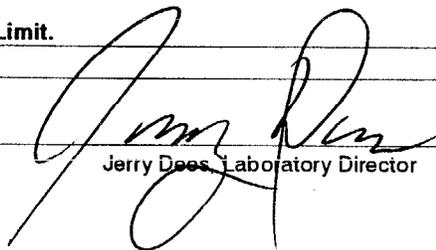
Lab ID Number: 9505016 C
Sample Date: 30 Mar 95
Received Date: 7 Apr 95
Sample Site: NAS Key West
Job Order #: 160 4002

| 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 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 | 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 45**

**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 45 | | | |
| NO ACM DETECTED | - | - | - |

So why all these pages?

* 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 45 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 45

Exterior: NONE

Interior: 1. POOR CONDITION, YELLOW, CONCRETE, FLOOR 2.1 mg/cm²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 45, 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 45 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).

| LOCATION SAMPLED | PERCENT SOIL EXPOSED | RESULTS OF ANALYSES (PPM) |
|--------------------|----------------------|---------------------------|
| BUILDING 45 | | |
| NO SOIL SAMPLES | CONCRETE/ASPHALT | - |

* 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 45

XRF DATA SHEET

DATE:03/30/95

| Assay # | Substrate | Paint Condition | Location | Wall Number | Component | Color | Type | K-Shell mg/cm ² |
|---------|-----------|-----------------|----------|-------------|-----------|--------|--------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== |
| 1 | CONCRETE | POOR | INTERIOR | FLOOR | FLOOR | YELLOW | SCREEN | 2.1 |

**APPENDIX D
LAB ANALYSES OF SOIL
SAMPLES**

Where?

**LEAD AND ASBESTOS SURVEY
OF
BUILDING 48**

**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 48 | | | |
| HOMO A/ PIPE LAGGING | MECH ROOM 109 | 200 lin ft | POOR FRIABLE HIGH |
| HOMO B/ PIPE LAGGING | AC(MECH ROOM) 1, 2, 3 | 1- 20 lin ft 2- 20 lin ft 3- 28 lin ft | POOR FRIABLE MOD |
| HOMO C/ PIPE LAGGING | PASSAGEWAY 116 ROOMS 108-110 | 2-4" PIPES 600 lin ft | POOR FRIABLE HIGH |
| HOMO D/ MASTIC ON DUCT WORK | 2ND FLOOR ONLY | 500 ft ² | POOR NON HIGH |
| HOMO H/ 9"x9" GREY FLOOR TILE | ROOMS 118, 119 | 570 ft ² | POOR NON HIGH |
| HOMO J/ 9"x9" BLACK FLOOR TILE | PASSAGEWAY 116 CORRIDOR 213 ROOMS 118, 119, 120, 121 | 2130 ft ² | GOOD NON HIGH |

| | | | |
|--|---|----------------------|-------------------------|
| HOMO K/ LT. GREY FLOOR TILE W/BLACK & WHITE SPECS | ROOMS 234, 235, 236, 236A, 238, 201B, 201C, 201D, 205, 211, 211B, 213 | 3500 ft ² | FAIR NON HIGH |
| HOMO L/ HAZE GREY FLOOR TILE W/BLACK & WHITE SPECS | CORRIDOR 201A ROOMS 201C, 201D, 205, 206, 207A, 209, 210, 211, 224, 225, 231, 291, 292, 293, 294, 295, 296 | 6557 ft ² | FAIR NON HIGH |
| HOMO N/ MASTIC ONLY UNDER 12" BROWN FLOOR TILE | ROOM 108 | 24 ft ² | GOOD NON LOW |
| HOMO O/ 12"x12" BLACK FLOOR TILE | STAIRWELL ROOMS 104, 105, 111, 112, 113, 114, 115, 117, 122, 123, 125, 127, 129, 132 | 4570 ft ² | FAIR NON HIGH |
| HOMO P/ 12"x12" GREY FLOOR TILE | ROOM 228 | 600 ft ² | FAIR NON HIGH |
| HOMO S/ 9"x9" BLACK FLOOR TILE | ROOMS 118, 119 | 100 ft ² | POOR NON HIGH |
| HOMO U/ PIPE LAGGING | 1 1/2" DOMESTIC WATER LINE 2 ELBOWS | UNKNOWN | FAIR FRIABLE HIGH |
| HOMO V/ ORANGE STAIR TREAD | 2ND FLOOR TO ROOF | 50 ft ² | GOOD NON HIGH |
| HOMO W/ FIRE DOOR INSULATION | DOORS FROM ROOMS 118 TO MECH ROOM 109 ST. #2 TO LOBBY 104 ST. #2 TO LOBBY 238 LOBBY 104 TO PASSAGE 132 | UNKNOWN | POOR FRIABLE MOD |

| | | | |
|---|---|---|---------------------|
| HOMO X/ BLACK MASTIC | SUPPLY DUCT WORK TO 18" PIPE CHILL WATER LINE | DUCT-120 ft ² PIPE-100 lin ft | GOOD NON MOD |
| HOMO Y/ DAMPER CLOTH | ROOM 109 (MECH ROOM) BLACK FIBROUS TAR LAYER | 30 ft ² | GOOD NON MOD |
| HOMO Z/ ELEVATOR BRAKE SHOES ASSUMED | ELEVATORS | UNKNOWN | UNKNOWN |
| HOMO AA/ ELECTRICAL WIRING ASSUMED | INTERIOR | UNKNOWN | UNKNOWN |
| HOMO BB/ CHALKBOARDS ASSUMED | ROOMS | UNKNOWN | GOOD NON HIGH |
| HOMO CC/ GASKETS AND VALVE PACKING ON FIRE SPRINKLER SYSTEM | ALL ROOMS CHILL WATER LINES IN MECH ROOM | UNKNOWN | UNKNOWN |
| HOMO DD/ BUILT-UP ROOF | ROOF | 20000 ft ² | GOOD NON LOW |
| HOMO EE/ COOLING TOWER SIDES AND BAFFLES | COOLING TOWERS | 2000 ft ² | UNKNOWN |

* 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 48 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 48

| | | |
|-----------|--|------------------------|
| Exterior: | 1. POOR CONDITION, YELLOW, ASPHALT, STRIPING | 4.8 mg/cm ² |
| | 2. POOR CONDITION, YELLOW, WOOD, DOOR | 9.5 mg/cm ² |
| Interior: | 3. GOOD CONDITION, BLUE, VINYL, BASEBOARD | 5.3 mg/cm ² |
| | 4. POOR CONDITION, YELLOW, METAL, EYEWASH | 1.7 mg/cm ² |
| | 5. POOR CONDITION, GREEN, WOOD, DOOR JAMB | 1.7 mg/cm ² |



6. POOR CONDITION, YELLOW, METAL, DOOR

7.0 mg/cm²

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP in building 48, 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 48 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.

what about poor condition,

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 48 | | |
| #2002S/ WESTSIDE | 90% | 370 mg/kg (ppm) |

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

358
CP 125
201

APPENDIX A
LAB ANALYSES OF ASBESTOS
SAMPLES

Departmental Approval

Accession: 504297
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 48
Project Location: KEY WEST, FL

Department: INDUSTRIAL HYGIENE
Supervisor: Austin M. Crow

This data package has been reviewed and approved by:

James V. Bonkalle

Date: 21 AP 95

Analyzed by: Suzanne J. Widdie

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 17-APR-95 | A2-48-001 |
| 002 | 04-APR-95 N/S | 17-APR-95 | A2-48-002 |
| 003 | 04-APR-95 N/S | 17-APR-95 | B2-48-003 |
| 004 | 04-APR-95 N/S | | B2-48-004 |
| 005 | 04-APR-95 N/S | | B2-48-005 |

| Components | Laboratory Id: 001 | 002 | 003 | 004 | 005 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | 15 | 2 | 2 | | |
| TOTAL FIBROUS ASBESTOS (%) | 15 | 2 | 2 | | |

| | | | | | |
|----------------------|----|----|----|--|--|
| GLASS FIBERS (%) | 25 | 25 | 40 | | |
| CELLULOSE FIBERS (%) | | 20 | | | |
| MORTAR/PLASTER (%) | 60 | | | | |
| METAL FOIL (%) | | 3 | | | |
| PAINT (%) | | 3 | <1 | | |
| RESIN BINDER (%) | | 5 | | | |
| TAR (%) | | 42 | 57 | | |

| | | | |
|-------------------|---|----|---|
| UNIFORMITY | U | L | L |
| SAMPLE COLOR. | I | G | G |
| SAMPLE COLOR.. | | G | B |
| SAMPLE COLOR... | | B | T |
| SAMPLE COLOR.... | | SL | |
| SAMPLE COLOR..... | | B | |
| SAMPLE COLOR..... | | B | |
| SAMPLE COLOR..... | | SL | |
| SAMPLE COLOR..... | | B | |
| SAMPLE COLOR..... | | B | |
| SAMPLE COLOR..... | | Y | |

Remarks:

002 APPROXIMATELY 45% ASBESTOS IS LOCATED ONLY IN THE BLACK FIBROUS TAR LAYER DIRECTLY BENEATH THE TWO LAYERS OF GRAY PAINT.

003 APPROXIMATELY 25% ASBESTOS IS LOCATED IN THE FIBROUS BLACK TAR LAYER DIRECTLY BENEATH THE GRAY PAINT LAYER. APPROXIMATELY 3% ASBESTOS IS LOCATED IN THE TAN FIBROUS MORTAR/PLASTER LAYER.

004 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

005 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

where?

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 17-APR-95 | C2-48-006 |
| 007 | 04-APR-95 N/S | 17-APR-95 | D2-48-007 |
| 008 | 04-APR-95 N/S | | D2-48-008 |
| 009 | 04-APR-95 N/S | | D2-48-009 |
| 010 | 04-APR-95 N/S | 18-APR-95 | E2-48-010 |

| Components | Laboratory Id: 006 | 007 | 008 | 009 | 010 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | <1 | 13 | | | |
| TOTAL FIBROUS ASBESTOS (%) | <1 | 13 | | | ND |

| | | | | | |
|----------------------|----|----|--|--|----|
| CELLULOSE FIBERS (%) | 40 | | | | |
| GLASS FIBERS (%) | 27 | 20 | | | 75 |
| MORTAR/PLASTER (%) | 20 | | | | <1 |
| RESIN BINDER (%) | 10 | 3 | | | 24 |
| TAR (%) | 2 | 44 | | | |
| PAINT (%) | | 20 | | | |

| | | | | |
|-------------------|---|----|--|----|
| UNIFORMITY | L | L | | N |
| SAMPLE COLOR. | B | W | | BR |
| SAMPLE COLOR.. | I | BG | | G |
| SAMPLE COLOR... | Y | B | | W |
| SAMPLE COLOR.... | | B | | |
| SAMPLE COLOR..... | | Y | | |

Remarks:

- 006 APPROXIMATELY 25% ASBESTOS IS LOCATED ONLY IN THE SURFACE LAYER OF BLACK FIBROUS TAR.
- 007 ASBESTOS IS LOCATED ONLY IN THE BLACK FIBROUS TAR LAYERS.
- 008 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
- 009 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Where?

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 18-APR-95 | E2-48-011 | | |
| 012 | 04-APR-95 N/S | 18-APR-95 | E2-48-012 | | |
| 013 | 04-APR-95 N/S | 18-APR-95 | F2-48-013 | | |
| 014 | 04-APR-95 N/S | 18-APR-95 | F2-48-014 | | |
| 015 | 04-APR-95 N/S | 18-APR-95 | F2-48-015 | | |

| Components | Laboratory Id: 011 012 013 014 015 | | | | | |
|----------------------------|------------------------------------|----|----|----|----|----|
| TOTAL FIBROUS ASBESTOS (%) | ND | ND | ND | ND | ND | ND |
| CELLULOSE FIBERS (%) | <1 | 2 | 5 | 5 | 5 | 5 |
| GLASS FIBERS (%) | 75 | 73 | 69 | 69 | 69 | 69 |
| MORTAR/PLASTER (%) | <1 | 3 | | | | |
| RESIN BINDER (%) | 23 | 22 | | | | |
| BINDER (%) | | | 25 | 25 | 25 | 25 |
| PAINT (%) | | | <1 | <1 | <1 | <1 |
| UNIFORMITY | N | N | L | L | L | L |
| SAMPLE COLOR. | B | B | W | I | I | I |
| SAMPLE COLOR.. | BR | BR | T | T | T | T |
| SAMPLE COLOR... | W | B | | | | |

what is this?

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 18-APR-95 | G2-48-016 |
| 017 | 04-APR-95 N/S | 18-APR-95 | G2-48-017 |
| 018 | 04-APR-95 N/S | 18-APR-95 | G2-48-018 |
| 019 | 04-APR-95 N/S | 18-APR-95 | H2-48-019 |
| 020 | 04-APR-95 N/S | 18-APR-95 | H2-48-019 |

| Components | Laboratory Id: 016 | 017 | 018 | 019 | 020 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | | | 3 | 20 |
| TREMOLITE ASBESTOS (%) | | | | <1 | |
| TOTAL FIBROUS ASBESTOS (%) | ND | ND | ND | <4 | 20 |

| | | | | | |
|--------------------------|----|----|----|----|----|
| WOOD FIBERS (%) | 99 | 99 | 99 | | |
| PAINT (%) | 1 | 1 | 1 | | |
| NONFIBROUS TREMOLITE (%) | | | | <1 | |
| TILE COMPONENTS (%) | | | | 95 | |
| MASTIC (%) | | | | | 80 |

| | | | | | |
|------------------|----|----|----|----|---|
| UNIFORMITY | L | L | L | U | U |
| SAMPLE COLOR. | I | I | I | DG | B |
| SAMPLE COLOR.. | BR | BR | BR | O | |
| SAMPLE COLOR... | | | | W | |
| SAMPLE COLOR.... | | | | S | |

Remarks:

019 ASPECT RATIO OF FIBROUS TREMOLITE IS 3:1 OR GREATER.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | H2-48-020 |
| 022 | 04-APR-95 | N/S | H2-48-020 |
| 023 | 04-APR-95 | N/S | H2-48-021 |
| 024 | 04-APR-95 | N/S | H2-48-021 |
| 025 | 04-APR-95 | N/S | 18-APR-95 I2-48-022 |

Components Laboratory Id: 021 022 023 024 025

TOTAL FIBROUS ASBESTOS (%) ND

TILE COMPONENTS (%) 100

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

Remarks:

021 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 022 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 023 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 024 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 18-APR-95 | I2-48-022 | | | |
| 027 | 04-APR-95 N/S | 18-APR-95 | I2-48-023 | | | |
| 028 | 04-APR-95 N/S | 18-APR-95 | I2-48-023 | | | |
| 029 | 04-APR-95 N/S | 18-APR-95 | I2-48-024 | | | |
| 030 | 04-APR-95 N/S | 18-APR-95 | I2-48-024 | | | |
| Components | | Laboratory Id: 026 027 028 029 030 | | | | |
| TOTAL FIBROUS ASBESTOS (%) | | ND | ND | ND | ND | ND |
| PLASTIC FIBERS (%) | | 20 | | 20 | | 20 |
| MASTIC (%) | | 80 | | 80 | | 80 |
| TILE COMPONENTS (%) | | | 100 | | 100 | |
| UNIFORMITY | | U | U | U | U | U |
| SAMPLE COLOR. | | B | BR | B | BR | B |
| SAMPLE COLOR.. | | | I | | I | |
| SAMPLE COLOR... | | | S | | S | |

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 18-APR-95 | J2-48-025 |
| 032 | 04-APR-95 N/S | 18-APR-95 | J2-48-025 |
| 033 | 04-APR-95 N/S | | J2-48-026 |
| 034 | 04-APR-95 N/S | 18-APR-95 | J2-48-026 |
| 035 | 04-APR-95 N/S | | J2-48-027 |

| Components | Laboratory Id: 031 | 032 | 033 | 034 | 035 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYSOTILE ASBESTOS (%) | 2 | | | | |
| TOTAL FIBROUS ASBESTOS (%) | 2 | ND | | ND | |

| | | | | | |
|---------------------|----|-----|--|-----|--|
| TILE COMPONENTS (%) | 98 | | | | |
| MASTIC (%) | | 100 | | 100 | |

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

Remarks:

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

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 18-APR-95 | J2-48-027 |
| 037 | 04-APR-95 N/S | 18-APR-95 | K2-48-028 |
| 038 | 04-APR-95 N/S | 18-APR-95 | K2-48-028 |
| 039 | 04-APR-95 N/S | | K2-48-029 |
| 040 | 04-APR-95 N/S | | K2-48-029 |

| Components | Laboratory Id: 036 | 037 | 038 | 039 | 040 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | 20 | 2 | | |
| TOTAL FIBROUS ASBESTOS (%) | ND | 20 | 2 | | |
| CELLULOSE FIBERS (%) | | | <1 | | |
| MASTIC (%) | 100 | | 97 | | |
| TILE COMPONENTS (%) | | 80 | | | |

| | | | |
|------------------|---|----|---|
| UNIFORMITY | U | U | U |
| SAMPLE COLOR. | Y | LG | B |
| SAMPLE COLOR.. | | B | |
| SAMPLE COLOR... | | W | |
| SAMPLE COLOR.... | | S | |

Remarks:

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

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | K2-48-030 | | | | | |
| 042 | 04-APR-95 | N/S | K2-48-030 | | | | | |
| 043 | 04-APR-95 | N/S | 18-APR-95 | L2-48-031 | | | | |
| 044 | 04-APR-95 | N/S | 18-APR-95 | L2-48-031 | | | | |
| 045 | 04-APR-95 | N/S | L2-48-032 | | | | | |
| Components | | | | Laboratory Id: 041 | 042 | 043 | 044 | 045 |
| CHRYSOTILE ASBESTOS (%) | | | | | | 30 | 5 | |
| TOTAL FIBROUS ASBESTOS (%) | | | | | | 30 | 5 | |
| TITLE COMPONENTS (%) | | | | | | 70 | | |
| MASTIC (%) | | | | | | | 95 | |
| UNIFORMITY | | | | | | U | U | |
| SAMPLE COLOR. | | | | | | G | B | |
| SAMPLE COLOR.. | | | | | | W | | |
| SAMPLE COLOR... | | | | | | S | | |

Remarks:

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

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | | L2-48-032 | | | | | | |
| 047 | 04-APR-95 N/S | | L2-48-033 | | | | | | |
| 048 | 04-APR-95 N/S | | L2-48-033 | | | | | | |
| 049 | 04-APR-95 N/S | 18-APR-95 | M2-48-034 | | | | | | |
| 050 | 04-APR-95 N/S | 18-APR-95 | M2-48-035 | | | | | | |
| Components | | | | Laboratory Id: | 046 | 047 | 048 | 049 | 050 |
| TOTAL FIBROUS ASBESTOS (%) | | | | | | | ND | ND | |
| RUBBEROID (%) | | | | | | | 100 | 100 | |
| UNIFORMITY | | | | | | | U | U | |
| SAMPLE COLOR. | | | | | | | B | B | |

Remarks:

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

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 18-APR-95 | M2-48-036 |
| 052 | 04-APR-95 N/S | 18-APR-95 | M2-48-037 |
| 053 | 04-APR-95 N/S | 18-APR-95 | M2-48-037 |
| 054 | 04-APR-95 N/S | 18-APR-95 | N2-48-038 |
| 055 | 04-APR-95 N/S | | N2-48-038 |

| Components | Laboratory Id: 051 | 052 | 053 | 054 | 055 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYSTILE ASBESTOS (%) | | | 5 | | |
| TOTAL FIBROUS ASBESTOS (%) | ND | ND | 5 | ND | |
| CELLULOSE FIBERS (%) | | 5 | | 5 | |
| RUBBEROID (%) | 100 | | | | |
| TILE COMPONENTS (%) | | 95 | | 95 | |
| MASTIC (%) | | | 95 | | |
| UNIFORMITY | U | U | U | U | |
| SAMPLE COLOR. | B | BR | B | BR | |
| SAMPLE COLOR.. | | W | | W | |
| SAMPLE COLOR... | | S | | S | |

Remarks:
 055 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 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 | 18-APR-95 | N2-48-039 |
| 057 | 04-APR-95 N/S | | N2-48-039 |
| 058 | 04-APR-95 N/S | 18-APR-95 | O2-48-040 |
| 059 | 04-APR-95 N/S | 18-APR-95 | O2-48-040 |
| 060 | 04-APR-95 N/S | | O2-48-041 |

| Components | Laboratory Id: 056 | 057 | 058 | 059 | 060 |
|----------------------------|--------------------|-----|-----|-----|-----|
| TREMOLITE ASBESTOS (%) | | | 2 | | |
| TOTAL FIBROUS ASBESTOS (%) | ND | | 2 | ND | |
| CELLULOSE FIBERS (%) | 5 | | 5 | | |
| TILE COMPONENTS (%) | 95 | | 92 | | |
| NONFIBROUS TREMOLITE (%) | | | <1 | | |
| MASTIC (%) | | | | 100 | |
| UNIFORMITY | U | | U | U | |
| SAMPLE COLOR. | BR | | B | Y | |
| SAMPLE COLOR.. | W | | | | |
| SAMPLE COLOR... | S | | | | |

Remarks:

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

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 061 | 04-APR-95 N/S | 18-APR-95 | O2-48-041 |
| 062 | 04-APR-95 N/S | | O2-48-042 |
| 063 | 04-APR-95 N/S | 18-APR-95 | O2-48-042 |
| 064 | 04-APR-95 N/S | 18-APR-95 | P2-48-043 |
| 065 | 04-APR-95 N/S | 18-APR-95 | P2-48-043 |

| Components | Laboratory Id: 061 | 062 | 063 | 064 | 065 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | | | 15 | |
| TREMOLITE ASBESTOS (%) | | | | <1 | |
| TOTAL FIBROUS ASBESTOS (%) | ND | | ND | <16 | ND |

| | | | | | |
|--------------------------|-----|--|-----|----|-----|
| MASTIC (%) | 100 | | 100 | | 100 |
| NONFIBROUS TREMOLITE (%) | | | | <1 | |
| TILE COMPONENTS (%) | | | | 83 | |

| | | | | | |
|------------------|---|--|---|---|---|
| UNIFORMITY | U | | U | U | U |
| SAMPLE COLOR. | Y | | Y | G | B |
| SAMPLE COLOR.. | | | | W | |
| SAMPLE COLOR... | | | | B | |
| SAMPLE COLOR.... | | | | S | |

Remarks:

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

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id | | | | | | |
|-----------------------------------|---------------|---------------|------------------|-----------------------|------------|------------|------------|------------|------------|
| 066 | 04-APR-95 N/S | | P2-48-044 | | | | | | |
| 067 | 04-APR-95 N/S | 18-APR-95 | P2-48-044 | | | | | | |
| 068 | 04-APR-95 N/S | | P2-48-045 | | | | | | |
| 069 | 04-APR-95 N/S | 18-APR-95 | P2-48-045 | | | | | | |
| 070 | 04-APR-95 N/S | 18-APR-95 | Q2-48-046 | | | | | | |
| Components | | | | Laboratory Id: | 066 | 067 | 068 | 069 | 070 |
| TOTAL FIBROUS ASBESTOS (%) | | | | | | ND | | ND | ND |
| CELLULOSE FIBERS (%) | | | | | | | | | 5 |
| MASTIC (%) | | | | | | 100 | | 100 | |
| TILE COMPONENTS (%) | | | | | | | | | 95 |
| UNIFORMITY | | | | | U | | U | | U |
| SAMPLE COLOR. | | | | | B | | B | | GR |
| SAMPLE COLOR.. | | | | | | | | | W |
| SAMPLE COLOR... | | | | | | | | | S |

Remarks:

066 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 068 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id | | | | |
|----------------------------|---------------|----------------|------------------|-----|-----|-----|-----|
| 071 | 04-APR-95 N/S | 18-APR-95 | Q2-48-046 | | | | |
| 072 | 04-APR-95 N/S | 18-APR-95 | Q2-48-047 | | | | |
| 073 | 04-APR-95 N/S | 18-APR-95 | Q2-48-047 | | | | |
| 074 | 04-APR-95 N/S | 19-APR-95 | Q2-48-048 | | | | |
| 075 | 04-APR-95 N/S | 19-APR-95 | Q2-48-048 | | | | |
| Components | | Laboratory Id: | 071 | 072 | 073 | 074 | 075 |
| CHRYSOTILE ASBESTOS (%) | | | <1 | | <1 | | <1 |
| TOTAL FIBROUS ASBESTOS (%) | | | <1 | ND | <1 | ND | <1 |
| CELLULOSE FIBERS (%) | | | 5 | 5 | <1 | 5 | <1 |
| GLASS FIBERS (%) | | | | | <1 | | <1 |
| MASTIC (%) | | | 94 | | 97 | | 97 |
| TILE COMPONENTS (%) | | | | 95 | | 95 | |
| UNIFORMITY | | | U | U | U | U | U |
| SAMPLE COLOR. | | | B | GR | B | GR | B |
| SAMPLE COLOR.. | | | | W | | W | |
| SAMPLE COLOR... | | | | S | | S | |

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id | | | |
|----------------------------|---------------|--------------------|------------------|-----|-----|-----|
| 076 | 04-APR-95 N/S | 19-APR-95 | R2-48-049 | | | |
| 077 | 04-APR-95 N/S | 19-APR-95 | R2-48-049 | | | |
| 078 | 04-APR-95 N/S | 19-APR-95 | R2-48-050 | | | |
| 079 | 04-APR-95 N/S | 19-APR-95 | R2-48-050 | | | |
| 080 | 04-APR-95 N/S | 19-APR-95 | R2-48-051 | | | |
| Components | | Laboratory Id: 076 | 077 | 078 | 079 | 080 |
| TOTAL FIBROUS ASBESTOS (%) | | ND | ND | ND | ND | ND |
| CELLULOSE FIBERS (%) | | 5 | | 5 | | 5 |
| TILE COMPONENTS (%) | | 95 | | 95 | | |
| MASTIC (%) | | | 100 | | 100 | 95 |
| UNIFORMITY | | U | U | U | U | U |
| SAMPLE COLOR. | | T | B | T | B | T |
| SAMPLE COLOR.. | | O | | O | | O |
| SAMPLE COLOR... | | S | | W | | W |
| SAMPLE COLOR.... | | | | S | | BR |
| SAMPLE COLOR..... | | | | | | S |

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 081 | 04-APR-95 N/S | 19-APR-95 | R2-48-051 |
| 082 | 04-APR-95 N/S | 19-APR-95 | S2-48-052 |
| 083 | 04-APR-95 N/S | 19-APR-95 | S2-48-052 |
| 084 | 04-APR-95 N/S | | S2-48-053 |
| 085 | 04-APR-95 N/S | 19-APR-95 | S2-48-053 |

| Components | Laboratory Id: 081 | 082 | 083 | 084 | 085 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYSTILE ASBESTOS (%) | | 25 | | | |
| TOTAL FIBROUS ASBESTOS (%) | ND | 25 | ND | | ND |
| MASTIC (%) | 100 | | 100 | | 100 |
| TILE COMPONENTS (%) | | 75 | | | |
| UNIFORMITY | U | U | U | | U |
| SAMPLE COLOR. | B | B | T | | T |
| SAMPLE COLOR.. | | W | | | |
| SAMPLE COLOR... | | S | | | |

Remarks:

084 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 086 | 04-APR-95 N/S | 19-APR-95 | S2-48-053 |
| 087 | 04-APR-95 N/S | | S2-48-054 |
| 088 | 04-APR-95 N/S | 19-APR-95 | S2-48-054 |
| 089 | 04-APR-95 N/S | 19-APR-95 | T2-48-055 |
| 090 | 04-APR-95 N/S | 19-APR-95 | T2-48-056 |

| Components | Laboratory Id: 086 | 087 | 088 | 089 | 090 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | 20 | | | | |
| TOTAL FIBROUS ASBESTOS (%) | 20 | | ND | ND | ND |
| CELLULOSE FIBERS (%) | | | | 3 | 3 |
| MASTIC (%) | 80 | | 100 | | |
| TILE COMPONENTS (%) | | | | 97 | 97 |
| UNIFORMITY | U | | U | U | U |
| SAMPLE COLOR. | B | | T | LBL | LBL |
| SAMPLE COLOR.. | | | | W | W |
| SAMPLE COLOR... | | | | BR | BR |
| SAMPLE COLOR.... | | | | S | S |

Remarks:

087 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 091 | 04-APR-95 N/S | 19-APR-95 | T2-48-057 |
| 092 | 04-APR-95 N/S | 19-APR-95 | V2-48-058 |
| 093 | 04-APR-95 N/S | | V2-48-059 |
| 094 | 04-APR-95 N/S | | V2-48-060 |
| 095 | 04-APR-95 N/S | 19-APR-95 | W2-48-061 |

| Components | Laboratory Id: 091 | 092 | 093 | 094 | 095 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | 3 | | | 70 |
| TOTAL FIBROUS ASBESTOS (%) | ND | 3 | | | 70 |

| | | | | | |
|----------------------|----|----|--|--|----|
| CELLULOSE FIBERS (%) | 3 | | | | 5 |
| GLASS FIBERS (%) | | | | | <1 |
| TILE COMPONENTS (%) | 97 | | | | |
| RUBBEROID (%) | | 97 | | | |
| MORTAR/PLASTER (%) | | | | | 24 |

| | | | | |
|------------------|-----|---|--|---|
| UNIFORMITY | U | U | | U |
| SAMPLE COLOR. | LBL | O | | W |
| SAMPLE COLOR.. | W | B | | |
| SAMPLE COLOR... | BR | W | | |
| SAMPLE COLOR.... | S | S | | |

Remarks:

093 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 094 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 096 | 04-APR-95 N/S | | W2-48-062 |
| 097 | 04-APR-95 N/S | | W2-48-063 |
| 098 | 04-APR-95 N/S | 19-APR-95 | X2-48-064 |
| 099 | 04-APR-95 N/S | | X2-48-065 |
| 100 | 04-APR-95 N/S | | X2-48-066 |

| Components | Laboratory Id: 096 | 097 | 098 | 099 | 100 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | | | 15 | | |
| TOTAL FIBROUS ASBESTOS (%) | | | 15 | | |
| GLASS FIBERS (%) | | | 3 | | |
| MASTIC (%) | | | 81 | | |
| RESIN BINDER (%) | | | 1 | | |
| UNIFORMITY | | | L | | |
| SAMPLE COLOR. | | | B | | |
| SAMPLE COLOR.. | | | Y | | |

Remarks:

096 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 097 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 098 ASBESTOS IS LOCATED IN THE BLACK FIBROUS MASTIC LAYER.
 099 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 100 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 101 | 04-APR-95 N/S | 19-APR-95 | Y2-48-067 |
| 102 | 04-APR-95 N/S | | Y2-48-068 |
| 103 | 04-APR-95 N/S | | Y2-48-069 |
| 104 | 04-APR-95 N/S | 19-APR-95 | C2-48-070 |
| 105 | 04-APR-95 N/S | | C2-48-071 |

| Components | Laboratory Id: 101 | 102 | 103 | 104 | 105 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYBOTILE ASBESTOS (%) | 1 | | | 3 | |
| TREMOLITE ASBESTOS (%) | | | | <1 | |
| TOTAL FIBROUS ASBESTOS (%) | 1 | | | <4 | |
| CELLULOSE FIBERS (%) | 74 | | | | |
| GLASS FIBERS (%) | | | | 39 | |
| MISCELLANEOUS DEBRIS (%) | 20 | | | | |
| TAR (%) | 5 | | | 6 | |
| MORTAR/PLASTER (%) | | | | 50 | |
| PAINT (%) | | | | 1 | |
| UNIFORMITY | L | | | L | |
| SAMPLE COLOR. | B | | | I | |
| SAMPLE COLOR.. | BR | | | I | |
| SAMPLE COLOR... | W | | | B | |
| SAMPLE COLOR.... | | | | T | |

Remarks:

101 ASBESTOS IS LOCATED ONLY IN THE BLACK FIBROUS TAR LAYER.
 102 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 103 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
 104 APPROXIMATELY 1% FIBROUS TREMOLITE IS LOCATED ONLY IN THE IVORY PAINT LAYERS. ASPECT RATIO OF FIBROUS TREMOLITE IS 3:1 OR GREATER. APPROXIMATELY 5% CHRYBOTILE IS LOCATED IN THE BLACK TAR LAYER. APPROXIMATELY 3% CHRYBOTILE IS LOCATED IN THE TAN FIBROUS MORTAR/PLASTER LAYER.
 105 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
 Client: US NAVY PUBLIC WORKS CENTER
 Project Number: 1026002
 Project Name: U.S. NAVAL AIR STATION, BUILDING 48
 Project Location: KEY WEST, FL
 Test: TOTAL FIBROUS ASBESTOS (%)
 Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 106 | 04-APR-95 N/S | 19-APR-95 | A2-48-072 |
| 107 | 04-APR-95 N/S | | A2-48-073 |
| 108 | 04-APR-95 N/S | 19-APR-95 | U2-48-074 |
| 109 | 04-APR-95 N/S | 19-APR-95 | U2-48-075 |
| 110 | 04-APR-95 N/S | | U2-48-076 |

| Components | Laboratory Id: 106 | 107 | 108 | 109 | 110 |
|----------------------------|--------------------|-----|-----|-----|-----|
| CHRYSOTILE ASBESTOS (%) | 15 | | | 60 | |
| TOTAL FIBROUS ASBESTOS (%) | 15 | | ND | 60 | |

| | | | | | |
|----------------------|----|--|----|----|--|
| CELLULOSE FIBERS (%) | <1 | | 85 | 4 | |
| GLASS FIBERS (%) | 15 | | 5 | 10 | |
| MORTAR/PLASTER (%) | 50 | | 4 | 25 | |
| PAINT (%) | 4 | | 5 | 1 | |
| TAR (%) | 15 | | | | |
| RESIN BINDER (%) | | | <1 | | |

| | | | | | |
|-------------------|----|--|---|--|----|
| UNIFORMITY | L | | L | | |
| SAMPLE COLOR. | GR | | W | | W |
| SAMPLE COLOR.. | B | | W | | W |
| SAMPLE COLOR... | T | | Y | | W |
| SAMPLE COLOR.... | | | I | | BG |
| SAMPLE COLOR..... | | | | | G |

Remarks:

- 106 APPROXIMATELY 15% CHRYSOTILE IS LOCATED IN THE BLACK FIBROUS TAR LAYER. APPROXIMATELY 20% CHRYSOTILE IS LOCATED IN THE TAN FIBROUS MORTAR/PLASTER LAYER.
- 107 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.
- 109 APPROXIMATELY 80% CHRYSOTILE IS LOCATED IN THE WHITE PRESSED FIBROUS LAYER BENEATH THE WHITE SURFACE LAYERS OF PAINT AND CANVAS. APPROXIMATELY 15% CHRYSOTILE IS LOCATED IN THE GRAY FIBROUS MORTAR/PLASTER LAYER.
- 110 SAMPLE NOT ANALYZED AT CLIENT'S REQUEST.

Accession: 504297
Client: US NAVY PUBLIC WORKS CENTER
Project Number: 1026002
Project Name: U.S. NAVAL AIR STATION, BUILDING 48
Project Location: KEY WEST, FL
Test: TOTAL FIBROUS ASBESTOS (%)
Matrix: BULK

| Lab Id | Sample Date | Analysis Date | Client Sample Id |
|--------|---------------|---------------|------------------|
| 111 | 04-APR-95 N/S | | U2-48-077 |

Components Laboratory Id: 111

TOTAL FIBROUS ASBESTOS (%)

Remarks:

111 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, DER = 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 48

XRF DATA SHEET

DATE:03/28/95

| Assay # | Substrate | Paint Condition | Location | Wall Number | Component | Color | Type | K-Shell mg/cm ² |
|---------|-----------|-----------------|-----------------|-------------|-----------|------------|--------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== |
| 6 | VINYL | GOOD | CORRIDOR 201D | 4 | BASEBOARD | ROYAL BLUE | SCREEN | 5.3 |
| 17 | METAL | POOR | 214 | 2 | EYEWASH | YELLOW | TEST | 1.7 |
| 27 | WOOD | POOR | ELEVATOR ROOF | 4 | DOOR JAMB | DARK GREEN | SCREEN | 1.7 |
| 30 | METAL | POOR | ELEVATOR 2ND FL | 2 | DOOR | YELLOW | SCREEN | 7.0 |
| 31 | ASPHALT | POOR | EXTERIOR | 2 | STRIPING | YELLOW | SCREEN | 4.8 |
| 32 | WOOD | POOR | EXTERIOR | 2 | DOOR | YELLOW | SCREEN | 9.5 |



**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

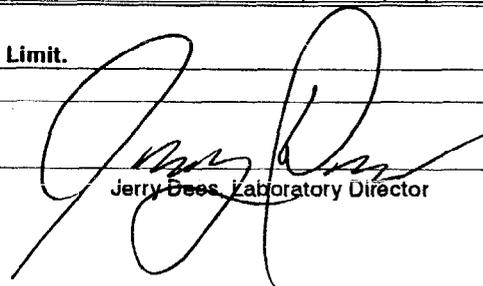
Lab ID Number: 9505016 A
 Sample Date: 30 Mar 95
 Received Date: 7 Apr 95
 Sample Site: NAS Key West
 Job Order #: 160 4002

| Sample ID# | Lab | 1- 51973 | 2- 51974 | 3- 51975 | 4- 51976 | Analyst(s): | | | | |
|--------------------------------|------------|-------------------|----------------|---------------------|------------------------|----------------------------------|-------------|----------|-------------|-----------------|
| Sample Name | Requester | #2001S D-3-Gazebo | #2002S Bldg 48 | #2003S Roadside D-3 | #2004S White Street BG | 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- 51973 | units Limit | 2- 51974 | units Limit | 3- 51975 | units Limit | 4- 51976 | units Limit | |
| Lead(Pb) | EPA 6010A | X | 50 mg/kg 10 X | 370 mg/kg 10 X | 80 mg/kg 10 X | 10 mg/kg 10 X | 10 | None | | |

| Sample ID# | Lab | 5- 51977 | 6- 51978 | 7- 51979 | 8- 51980 | Analyst(s): | | | | |
|--------------------------------|------------|---------------------|---------------------|---------------------|---------------------|----------------------------------|-------------|----------|-------------|-----------------|
| Sample Name | Requester | #2005S White Street | #2006S White Street | #2007S White Street | #2008S White Street | 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 # | 5- 51977 | units Limit | 6- 51978 | units Limit | 7- 51979 | units Limit | 8- 51980 | units Limit | |
| Lead(Pb) | EPA 6010A | X | 10 mg/kg 10 X | BDL mg/kg 10 X | BDL mg/kg 10 X | 20 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: 04-May-95 11:24



**LEAD AND ASBESTOS SURVEY
OF
TRUMBO POINT 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 |
|---------------------------|----------|------------------|------------------------------|
| TRUMBO POINT PIER | | | |
| NO ACM DETECTED | - | - | - |

* FOR LAB ANALYSES OF ASBESTOS SAMPLES SEE APPENDIX A

SEE PRINTS FOR ACM HOMOGENEOUS AREA LOCATIONS.

Why all these pages?

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

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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 Trumbo Point 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.

TRUMBO POINT PIER

| | | | |
|---------------------------------------|--|-------------------------|--|
| Exterior: | 1. POOR CONDITION, YELLOW, CONCRETE, CURB | 4.1 mg/cm ² | |
| | 2. POOR CONDITION, BLACK, METAL, CHOCK | 3.0 mg/cm ² | |
| | 3. POOR CONDITION, YELLOW, METAL, GUARD | 3.1 mg/cm ² | |
| | 4. POOR CONDITION, YELLOW, CONCRETE, STRIPE | 3.3 mg/cm ² | |
| | 5. POOR CONDITION, YELLOW, METAL, DOOR | 2.0 mg/cm ² | |
| | 6. POOR CONDITION, WHITE, WOOD, RAFTER | 3.1 mg/cm ² | |
| | 7. POOR CONDITION, YELLOW, METAL, GUARD | 1.8 mg/cm ² | |
| | 8. POOR CONDITION, YELLOW, ASPHALT, STRIPING | 2.0 mg/cm ² | |
| | 9. GOOD CONDITION, BLUE, METAL, WATERLINE | 32.0 mg/cm ² | |
| | 10. FAIR CONDITION, YELLOW, CONCRETE, STRIPING | 1.6 mg/cm ² | |
| | | (TEST) | |
| | 11. FAIR CONDITION, BLACK, CONCRETE, STRIPING | 3.0 mg/cm ² | |
| | 12. FAIR CONDITION, YELLOW, CONC., STANCHION | 2.0 mg/cm ² | |
| 13. POOR CONDITION, GREY, METAL, DOOR | 2.8 mg/cm ² | | |

Interior: NONE

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CPIER
FLORIDA

2.5 CONCLUSIONS AND RECOMMENDATIONS

As a result of the inspections for LBP on Trumbo Point 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 Trumbo Point 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.

Paint?

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).

So what do we do?

500

| SAMPLE #/ LOCATION | PERCENT SOIL EXPOSED | RESULTS OF ANALYSES (PPM) |
|--------------------------------------|-------------------------|------------------------------|
| TRUMBO POINT PIER | | |
| KW010 | 75% | 140 mg/kg (ppm) |
| KW011 | 90% | 50 mg/kg (ppm) |
| KW012 | 60% | 50 mg/kg (ppm) |
| KW013 | 60% | 60 mg/kg (ppm) |
| KW014 | 60% | 40 mg/kg (ppm) |
| KW015 | 60% | 730 mg/kg (ppm) |
| KW016 | 60% | 450 mg/kg (ppm) |
| KW017 | 60% | 1600 mg/kg (ppm) |
| KW018 | 60% | 90 mg/kg (ppm) |
| KW019 | 100% | 140 mg/kg (ppm) |
| KW020 | 90% | 20 mg/kg (ppm) |
| KW021 | 70% | 30 mg/kg (ppm) |
| KW022 | 80% | 60 mg/kg (ppm) |
| KW023 | 90% | 60 mg/kg (ppm) |
| KW024 | 80% | 170 mg/kg (ppm) |
| KW025 | 50% | 20 mg/kg (ppm) |
| KW026 | 80% | 120 mg/kg (ppm) |
| KW027 | 100% | BDL (< 10 mg/kg (ppm)) |
| KW028 | 75% | 910 mg/kg (ppm) |
| #2001S/ AROUND GAZEBO AT PIER D-3 | 90% | 50 mg/kg (ppm) |
| #2002S/ BUILDING 48 | 90% | 370 mg/kg (ppm) |
| #2003S/ ROADSIDE PIER D-3 | 90% | 80 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

NO. 10
QUALITY
Samples
TEST.

TRUMBO POINT PIER

XRF DATA SHEET

DATE:03/30/95

| Assay # | Substrate | Paint Condition | Location | Wall Number | Component | Color | Type | K-Shell mg/cm ² |
|---------|-----------|-----------------|------------|-------------|------------------|--------|--------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== |
| 23-4 | CONCRETE | POOR | PIER | PIER | CURB | YELLOW | SCREEN | 4.1 |
| 23-5 | METAL | POOR | PIER | PIER | CHOCK | BLACK | SCREEN | 3.0 |
| 23-8 | METAL | POOR | FINGER | PIER 1 | ELECTRICAL GUARD | YELLOW | SCREEN | 3.1 |
| 23-9 | CONCRETE | POOR | FINGER | PIER 1 | STRIPING | YELLOW | SCREEN | 3.3 |
| 23-10 | METAL | POOR | FINGER | B52 | DOOR | YELLOW | SCREEN | 2.0 |
| 23-11 | WOOD | POOR | FINGER | B52 | RAFTER | WHITE | SCREEN | 3.1 |
| 23-17 | METAL | POOR | PIER | NORTH SIDE | METAL GUARD | YELLOW | SCREEN | 1.8 |
| 24-1 | ASPHALT | POOR | PARKING | WEST SIDE | STRIPING | YELLOW | SCREEN | 2.0 |
| 24-5 | METAL | GOOD | WATER LINE | WATER LINE | WATER LINE | BLUE | SCREEN | 32.0 |
| 24-8 | CONCRETE | FAIR | CURB | CURB | STRIPING | YELLOW | TEST | 1.6 |
| 24-9 | CONCRETE | FAIR | CURB | CURB | STRIPING | BLACK | SCREEN | 3.0 |
| 24-13 | CONCRETE | FAIR | GROUND | GROUND | STANCHION | YELLOW | TEST | 2.0 |
| 24-16 | METAL | POOR | BLDG. 14 | 1 | DOOR | GREY | SCREEN | 2.8 |

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

| Sample ID# | Lab | 1- 51973 | 2- 51974 | 3- 51975 | 4- 51976 | Analyst(s): | | | | | | | | |
|--------------------------------|------------|-------------------|----------------|---------------------|------------------------|----------------------------------|------------|----------|----------|------------|----------|-------|------------|-----------------|
| Sample Name | Requester | #2001S D-3-Gazebo | #2002S Bldg 48 | #2003S Roadside D-3 | #2004S White Street BG | 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- 51973 | | 10 X | 2- 51974 | | 10 X | 3- 51975 | | 10 X | 4- 51976 | | 10 X | |
| Lead(Pb) | EPA 6010A | X | 50 mg/kg | 10 X | 370 mg/kg | 10 X | 80 mg/kg | 10 X | 10 mg/kg | 10 X | 10 mg/kg | 10 X | 10 | None |

| Sample ID# | Lab | 5- 51977 | 6- 51978 | 7- 51979 | 8- 51980 | Analyst(s): | | | | | | | | |
|--------------------------------|------------|---------------------|---------------------|---------------------|---------------------|----------------------------------|------------|----------|----------|------------|----------|-------|------------|-----------------|
| Sample Name | Requester | #2005S White Street | #2006S White Street | #2007S White Street | #2008S White Street | 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 # | 5- 51977 | | 10 X | 6- 51978 | | 10 X | 7- 51979 | | 10 X | 8- 51980 | | 10 X | |
| Lead(Pb) | EPA 6010A | X | 10 mg/kg | 10 X | BDL mg/kg | 10 X | BDL mg/kg | 10 X | 20 mg/kg | 10 X | 20 mg/kg | 10 X | 10 | None |

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

Approved by: _____

Jerry Dees
Jerry Dees, Laboratory Director

Date/Time: 04-May-95 11:24