

N00213.AR.000378  
NAS KEY WEST  
5090.3a

REPORT OF ASBESTOS SURVEY U S DEPARTMENT OF AGRICULTURE ANIMAL AND  
PLANT HEALTH INSPECTION SERVICE FACILITY NAS KEY WEST FL  
6/25/1999  
LAW ENGINEERING AND ENVIRONMENTAL SERVICES



**REPORT OF ASBESTOS SURVEY**

**USDA APHIS FACILITY  
KEY WEST, FLORIDA**

- Prepared for -

**HANSON ENGINEERS, INC.**  
1601 Belvedere Road, Suite 303 South  
West Palm Beach, Florida 33406

- Prepared by -

**LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.**  
5845 NW 158th Street  
Miami Lakes, Florida 33014

LAW Project No. 40700-9-1952

June 25, 1999

Table 3.1. Lead-Based Paint Survey  
 Harry S. Truman Animal Import Center  
 U.S. Department of Agriculture  
 Fleming Key, Florida  
 May 17-18, 1999

293	Interior Building	Water Treatment Lab Bath	Bath Wall	South	Solid	Block	Tan	0	0.1	Negative	NA
294	Interior Building	Water Treatment Lab Bath	Bath Wall	East	Solid	Block	Tan	>0.21	---	Inconclusive	---
295	Interior Building	Water Treatment Lab Bath	Bath Wall	East	Solid	Block	Tan	0.09	0.24	Negative	NA
296	Interior Building	Water Treatment Basement	Wall	West	Solid	Concrete	Tan	0.01	0.09	Negative	NA
297	Interior Building	Water Treatment Basement	Wall	North	Solid	Concrete	Tan	0.06	0.22	Negative	NA
298	Interior Building	Water Treatment Basement	Wall	East	Solid	Concrete	Tan	0.06	0.29	Negative	NA
299	Interior Building	Water Treatment Basement	Wall	South	Solid	Concrete	Tan	0.04	0.28	Negative	NA
300	Interior Building	Water Treatment Basement	Column	South	Solid	Concrete	Tan	0.15	0.25	Negative	NA
301	Interior Building	Water Treatment Basement	Pipe	South	Solid	Metal	Gray	0.01	0.1	Negative	NA
302	Interior Building	Water Treatment Basement	Stairs	South	Solid	Metal	Brown	0.01	0.06	Negative	NA
303	Interior Building	Water Treatment Basement	Ceiling	NA	Solid	Concrete	Tan	0	0.08	Negative	NA
304	Interior Building	Water Treatment Basement	Wall	North	Solid	Concrete	Tan	0.17	0.25	Negative	NA
305	Interior Building	Water Treatment Chemical	Wall	South	Solid	Block	Tan	0.08	0.34	Negative	NA
306	Interior Building	Water Treatment Chemical	Wall	East	Solid	Block	Tan	0.15	0.27	Negative	NA
307	Interior Building	Water Treatment Chemical	Wall	West	Solid	Block	Tan	0.07	0.36	Negative	NA
308	Interior Building	Water Treatment Chem. Tank	Tank	North	Solid	Block	Tan	0.23	0.33	Negative	NA
309	Interior Building	Water Treatment Chem. Tank	Tank Support	NA	Solid	Metal	Gray	0.01	0.09	Negative	NA
310	Interior Building	Water Treatment Chem. Tank	Wall	North	Solid	Metal	Brown	0	0.03	Negative	NA
311	Interior Building	Water Treatment Chem. Tank	Door Frame	North	Solid	Metal	Brown	0.01	0.05	Negative	NA
312	Interior Building	Water Treat. Compressor Room	Wall	West	Solid	Block	Tan	0.14	0.29	Negative	NA
313	Interior Building	Water Treat. Compressor Room	Wall	East	Solid	Block	Tan	0.16	0.24	Negative	NA
314	Interior Building	Water Treat. Compressor Room	Wall	North	Solid	Block	Tan	0.06	0.23	Negative	NA
315	Interior Building	Water Treat. Compressor Room	Overhead Door	North	Solid	Metal	Brown	0.13	0.19	Negative	NA
316	Interior Building	Water Treat. Compressor Room	Wall	South	Solid	Block	Tan	0.08	0.37	Negative	NA
317	Interior Building	Water Treat. Compressor Room	Wall	East	Solid	Metal	Brown	0	0.06	Negative	NA
318	Interior Building	Water Treat. Compressor Room	Wall	South	Solid	Block	Tan	>0.31	---	Inconclusive	---
319	Interior Building	Water Treat. Compressor Room	Wall	South	Solid	Block	Tan	0.19	0.42	Negative	NA
320	Interior Building	Water Treat. Compressor Room	Wall	North	Solid	Block	Tan	0.12	0.41	Negative	NA
321	Interior Building	Water Treat. Compressor Room	Wall	East	Solid	Block	Tan	>0.35	---	Inconclusive	---
322	Interior Building	Water Treat. Compressor Room	Wall	East	Solid	Block	Tan	>0.29	---	Inconclusive	---
323	Interior Building	Water Treat. Compressor Room	Wall	East	Solid	Block	Tan	0.24	0.33	Negative	NA
324	Interior Building	Water Treat. Compressor Room	Tank Support	East	Solid	Metal	Gray	0.41	0.65	Positive	5 Ft <sup>2</sup>
325	Interior Building	Water Treat. Compressor Room	Tank Support	East	Solid	Metal	Gray	0.35	0.39	Negative	NA
326	Interior Building	Water Treat. Compressor Room	Closet Wall	North	Solid	Block	Tan	0.16	0.25	Negative	NA
327	Interior Building	Water Treat. Compressor Room	Closet Wall	South	Solid	Block	Tan	0.22	0.37	Negative	NA
328	Interior Building	Water Treat. Compressor Room	Closet Wall	West	Solid	Block	Tan	0.07	0.33	Negative	NA
329	Interior Building	Water Treat. Compressor Room	Closet Wall	East	Solid	Block	Tan	0.16	0.32	Negative	NA
330	Interior Building	Water Treat. Compressor Room	Tank	NA	Solid	Metal	Gray	0	0.02	Negative	NA
331	Interior Building	Water Treat. Compressor Room	Door	NA	Solid	Metal	Brown	0.01	0.19	Negative	NA
332	Interior Building	Water Treatment Building	Wall	South	Solid	Concrete	White	0	0.03	Negative	NA
333	Interior Building	Water Treatment Building	Pipe	NA	Solid	Metal	White	0.01	0.	Negative	NA
334	Interior Building	Water Treatment Building	Wall	NA	Solid	Concrete	White	0.01	0.16	Negative	NA
335	Interior Building	Water Treatment Building	Wall	NA	Solid	Concrete	White	0.01	0.19	Negative	NA
336	Exterior Building	Water Treatment Building	Wall	North	Solid	Concrete	White	0	0.19	Negative	NA
337	Calibration	---	---	---	---	---	---	1.04	0.22	---	---
338	Calibration	---	---	---	---	---	---	3.63	0.34	---	---
339	Calibration	---	---	---	---	---	---	0	0.01	---	---
340	Interior Building	Vel's Office	Louver	NA	Solid	Metal	Gray	0.01	0.04	Negative	NA
341	Interior Building	Washer Room	Louver	NA	Solid	Metal	Gray	0.01	0.02	Negative	NA

NA = Not Applicable

**LAW**  
LAWGIBB Group Member 

June 25, 1999

Hanson Engineers, Inc.  
1601 Belvedere Road, Suite 303 South  
West Palm Beach, Florida 33406

Attention: Mr. Stephen F. Rollin, P.E.  
Associate Partner

Subject: Report of Asbestos Survey  
USDA APHIS Facility  
Key West, Florida  
LAW Project No. 40700-9-1952

Dear Mr. Rollin:

Law Engineering and Environmental Services, Inc. (LAW), is pleased to submit this report of our survey for suspect asbestos-containing materials (ACMs) for the above-referenced site. The survey was performed in accordance with the scope of services outlined in LAW Proposal No. 7169-SF, dated April 26, 1999.

This report is intended for the use of Hanson Engineers, Inc. If other parties wish to rely on this report, please have them contact us so that a mutual understanding and agreement of the terms and conditions for our services can be established prior to their use of this information.

We appreciate the opportunity to be of service to you. If you should have any questions regarding this report, or if we may be of further service, please contact us.

Sincerely,

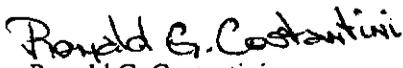
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.  
FLAC Business No. ZA0000116



Todd M. Ryba  
Project Professional



Brian J. DuChene, P.E.  
Florida Asbestos Consultant  
License No. EA0000075



Ronald G. Costantini  
Facilities Engineering Manager

SIGNED BY   
WITH PERMISSION

SIGNED BY   
TMR/BJD/ltmr  
40700-9-1952.rp.tmc  
WITH PERMISSION

## TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	i
1.0 STATEMENT OF INSPECTOR ACCREDITATION.....	1-1
2.0 FACILITY DESCRIPTION.....	2-1
3.0 SAMPLING METHODOLOGY.....	3-1
4.0 LABORATORY ANALYSIS.....	4-1
5.0 ASBESTOS SURVEY RESULTS.....	5-1
6.0 CONCLUSIONS AND RECOMMENDATIONS.....	6-1
7.0 ASBESTOS ABATEMENT OPINIONS OF COST.....	7-1
8.0 QUALIFICATIONS.....	8-1

## APPENDICES

- APPENDIX A: ACCREDITATION CERTIFICATES AND LABORATORY CERTIFICATES
- APPENDIX B: SAMPLE LOCATIONS
- APPENDIX C: DELINEATION OF ASBESTOS-CONTAINING MATERIALS
- APPENDIX D: SUMMARY OF PLM RESULTS
- APPENDIX E: PHOTOGRAPHIC DOCUMENTATION

The following paragraphs summarize the findings of the survey performed by LAW by building. Please refer to Section 5.0 of this report for more detailed information.

- **Main Building, Roof** - Samples of the built-up roof and the base flashings were found to contain asbestos.
- **Main Building, Barn Area** - Samples of the joint sealant for the exterior wall panels were found to contain asbestos.
- **Main Building, Incinerator Area** - No samples of asbestos-containing materials were identified.
- **Main Building, Administration Area** - Samples of the following materials were found to contain asbestos: 12-inch square brown floor tile/mastic, 12-inch square tan floor tile/mastic, 12-inch square white floor tile/mastic, 12-inch square blue floor tile/mastic, 12-inch square red floor tile/mastic, and sheet floor covering.
- **Boiler Building** - Samples of the built-up roof and the base flashings were found to contain asbestos.
- **Control Building** - Samples of the following materials were found to contain asbestos: sink undercoating, 12-inch square red floor tile/mastic, 12-inch square blue floor tile/mastic, built-up roof and base flashings.
- **Storage Building** - No suspect asbestos-containing materials were identified.
- **Wastewater Treatment Structure** - No samples of asbestos-containing materials were identified.
- **Water Storage Tank** - No samples of asbestos-containing materials were identified.

The identified Category I non-friable building materials were in good condition at the time of the survey. Prior to future renovation activities that would disturb these materials, we recommend that these asbestos-containing materials be removed by a State of Florida licensed Asbestos Removal Contractor in accordance with plans and specifications prepared by a licensed Florida Asbestos Consultant. Additionally, while these materials remain within the facility, we recommend that they be maintained in an asbestos Operations and Maintenance (O&M) Program.

If the building is selected for demolition, the asbestos-containing materials identified in this report may be addressed by utilizing a wet demolition method and may be disposed of as construction debris, provided they are not exposed to cutting, sanding, grinding, abrading,

## EXECUTIVE SUMMARY

### USDA APHIS FACILITY KEY WEST, FLORIDA

Law Engineering and Environmental Services, Inc. was authorized by Hanson Engineers, Inc. (Hanson) to perform a survey of suspect asbestos-containing materials within the designated structures scheduled for comprehensive renovations or possible demolition at the USDA APHIS Facility (The Facility). Authorization was provided in the form of a LAW Proposal Acceptance Sheet (7169-SF), dated April 26, 1999. You provided us with Notice to Proceed in your letter to us dated May 11, 1999. The survey sampling was performed in general accordance with the Asbestos Hazard Emergency Response Act (AHERA) and the Occupational Safety and Health Administration (OSHA) regulations and current industry standards.

The structures at the site which were surveyed include the following:

- Main Building, divided into three sections: the Barn Area, Incinerator Area and Administration Area.
- Boiler Building
- Control Building
- Storage Building
- Wastewater Treatment Structure
- Water Storage Tank

Based on the information provided to LAW by you, we understand that you have been contracted with the U.S. Department of Agriculture (USDA) to perform a *comprehensive environmental assessment* of The Facility. We understand that extensive renovations or possible demolition are being considered for The Facility and that the Monroe County, Department of Environmental Resource Management is requiring that the proposed services be performed prior to renovation/demolition activities.

You reported that the facility was constructed in approximately 1977 and encompasses a *total of 140,000 square feet* in four buildings in addition to a wastewater treatment plant. It was most currently being utilized as an animal holding compound; however, we have been informed that it is presently vacant and will remain vacant during the proposed site survey.

On May 27 and May 28, 1999, LAW representatives Mr. Todd Ryba and Mr. Hernan Villegas performed the asbestos survey of The Facility. LAW representatives obtained 124 bulk samples from the site and submitted them to LAW's Miami laboratory for analysis by Polarized Light Microscopy (PLM) with dispersion staining. A summary of the asbestos analysis results for these samples is included in Appendix D. The laboratory analysis worksheets are included in Appendix E of this report.

or otherwise rendered friable by the demolition operation. If the identified ACM's are left in place during demolition, the demolition operation must comply with the requirements for Class II asbestos work specified in the OSHA construction standard for asbestos (29 CFR 1926.1101).

This executive summary is provided for information purposes only. Please refer to this report for more detailed information.

## 1.0 STATEMENT OF INSPECTOR ACCREDITATION

The field observations and bulk sampling for friable, suspect asbestos-containing materials at the designated USDA APHIS Facility facilities were performed on May 27 and May 28, 1999 by LAW representatives Mr. Todd Ryba and Mr. Hernan Villegas. These two individuals have successfully completed an EPA accredited course for Asbestos Building Inspection in accordance with Section 206, Title II of the Toxic Substances Control Act (TSCA) enacted by the Asbestos Hazard Emergency Response Act (AHERA, EPA 40 CFR 763). A copy of their Asbestos Building Inspectors Certificates are included in Appendix A of this report.

Mr. Brian J. DuChene of LAW directed the survey. Mr. DuChene is a Florida Licensed Asbestos Consultant and an EPA Accredited Management Planner. A copy of Mr. DuChene's asbestos consultant's license is also included in Appendix A.

This report is based on the field observations made by the inspector during the sampling in conjunction with the laboratory analysis results of the bulk samples collected.

## 2.0 FACILITY DESCRIPTION

The USDA APHIS Facility is located at Fleming Key in Key West, Florida. The site consists of one main building, three smaller stand-alone buildings, a water storage tank and a wastewater treatment plant.

- **Main Building** – Is a single-story masonry block and pre-cast concrete structure, covered with a structural concrete roof deck and a built-up roof system. This building consists of three main areas which total over 90,000 square feet: the incinerator, barn and administration areas. The incinerator area houses three large incinerators and their associated plumbing and equipment, has no interior finishes other than paint, and is not air-conditioned. The barn area is mostly a large open space with numerous steel animal corrals, but also contains two restrooms, an electrical room and a generator room. No significant interior finishes other than paint were observed in the barn area. The administration area is a finished space at the south end of the building which contains offices, labs and locker, laundry, mechanical and rest rooms. Interior finishes include a suspended ceiling panel system, drywall partitions with base trim, several colors of 12-inch square floor tile, and sheet floor covering. The air distribution system generally consists of steel ducts without insulation and flexible ducts with plastic-sleeved fiberglass insulation. Plumbing lines above the suspended ceiling are covered with fiberglass insulation with a wrapping material. No fireproofing was observed on the walls or roof deck of the main building. Textured surfacing is present on the exterior of the building.
- **Boiler Building** – Is a single-story masonry block structure covered with a concrete roof deck and a built-up roof system. This building has approximately 1,000 square feet of plan space, and consists of one storage room and one mechanical room with two large water boilers and their associated plumbing and equipment. This structure has no interior finishes other than paint. No fireproofing was observed on the walls or roof deck of the boiler building. Textured surfacing is present on the exterior of the building.
- **Control Building** – Is a single-story and basement masonry block structure covered with a concrete roof deck and a built-up roof system. This building has approximately 2,000 square feet of plan space and contains a kitchen area, electrical control equipment, storage and a restroom on the first floor, and liquid holding basins in the basement. Interior finishes on the first floor include a suspended ceiling panel system, painted masonry walls with one small area of drywall in the restroom, wall base trim and 12-inch square floor tile. Insulated piping is present beneath the ceiling of the basement. No interior finishes other than paint was observed in the basement. No fireproofing was observed on the walls or roof deck of this building. Textured surfacing is present on the exterior of the building.
- **Storage Building** – Is a single-story wood structure with metal wall and roof panels. No interior finishes, mechanical systems or fireproofing material were observed in this structure.
- **Wastewater Treatment Structure** – Is a liquid containment basin located to the west of the Control Building. This concrete structure has a textured surfacing similar to that on the Control and Boiler Buildings.

- **Water Storage Tank** – Is an approximate 50-foot diameter water storage tank apparently constructed with concrete walls. The exterior of the tank walls have a textured surfacing present which is similar to that found on the main building.

### 3.0 SAMPLING METHODOLOGY

Law Engineering and Environmental Services, Inc. (LAW) has performed the survey for suspect asbestos-containing materials at the USDA APHIS Facility. This section outlines the survey procedures followed by LAW.

Based on the information provided to us by Hanson Engineers, Inc., we understand that The Facility is being considered for extensive renovations or complete demolition.

#### Site Survey

An initial building walk-through provided a general orientation and construction of The Facility. The observation process was organized suspect asbestos-containing materials (ACM) by type and by area within the building. Interior and exterior areas were visually observed for (1) surfacing material, (2) thermal system insulation (TSI), and (3) miscellaneous products.

Once suspect materials were located, homogeneous sampling areas were delineated and bulk samples collected. Homogeneous sampling areas define each suspect material by its location and physical characteristics such as surface, type of material, friability, texture, and color. A friable material is defined as any material that can be crumbled, pulverized, or reduced to powder by hand pressure.

A summary of the various categories of materials are outlined in the following paragraphs:

- Surfacing Material

Surfacing materials are defined as materials that are sprayed or troweled onto surfaces. Examples of surfacing materials are textured plaster or stucco on ceilings or walls and fireproofing material on structural members.

- Thermal System Insulation

Thermal system insulation (TSI) is defined as building materials that are found on structural components, structural members, or on fixtures and do not include surfacing materials or miscellaneous materials. Examples of thermal system insulation materials are pipe insulation and tank insulation.

- Miscellaneous Materials

Miscellaneous materials are defined as building materials that are found on structural components, structural members, or on fixtures and do not include surfacing materials or thermal system insulation materials. Examples of miscellaneous materials are floor tiles, drywall, sink undercoating, and ceiling tiles.

A total of 124 samples were obtained in general accordance with the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) and the Occupational Safety and Health Administration (OSHA) sampling requirements.

#### 4.0 LABORATORY ANALYSIS

After completion of the field work, the bulk samples obtained from the structures at the USDA APHIS Facility were delivered to LAW's in-house laboratory in Miami with the appropriate Chain-of-Custody forms to document the handling of the samples.

In accordance with EPA CFR part 763 (AHERA Regulation), the laboratory is accredited through the National Voluntary Laboratory Accreditation Program (NVLAP) with the National Institute of Standards and Technology (NIST, formerly the National Bureau of Standards). A copy of the laboratory's NVLAP certification is included in Appendix A.

The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining. The analysis was performed in general accordance with the method entitled "*Method for the Determination of Asbestos in Building Materials*" (EPA Method 600 Revision 93-116). Under this method, the various asbestos minerals (Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite) can be identified.

The asbestos is identified by the following characteristics: refractive index, morphology, elongation, color, pleochroism, birefringence, and extinction. In addition, the percentages of asbestos minerals in the samples are visually estimated by the microscopist. The other constituents found in each sample are also identified by percentage. These include fibrous non-asbestos materials such as cellulose/paper and mineral wool, and non-fibrous materials such as mica, quartz, calcite, and binders. Please note that the United States Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the State of Florida designate materials containing greater than one percent asbestos as "asbestos-containing".

Under the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations, 40 CFR Part 61, dated November 20, 1990), point counting of PLM samples is required when the asbestos content by visual estimation is under 10 percent; the alternative to this under NESHAPS is to assume the material to be asbestos-containing in the absence of point counting. This requirement would be applicable to this facility should the materials be disturbed by renovation or demolition. Point counting can be a time consuming and costly procedure, therefore, in the absence of such a disturbance, there is no requirement to perform point counting of PLM samples as part of the

AHERA survey protocol. Also, if the owner/operator of the facility elects to assume that the amount of asbestos in a material is greater than one percent, regardless of the amount determined by visual estimation, then point counting is not necessary.

The Occupational Safety and Health Administration (OSHA) does not consider a material to be asbestos-containing if the content is one percent or less asbestos by PLM. However, OSHA does not recognize the Point Count Method for analysis; therefore, materials with greater than one percent asbestos content as found by the PLM method of analysis are subject to OSHA regulations.

Bulk sample analysis results are included in Appendix D of this report. Sample results are shown in tabular form and include sample number, sample location, type of material, and content (percentages of asbestos and non-asbestos constituents). Individual laboratory worksheets are included in Appendix E.

## 5.0 ASBESTOS SURVEY RESULTS

Laboratory analysis revealed that 16 samples obtained by LAW were found to contain asbestiform minerals. A summary of the sampling and the analytical results per building are presented in the paragraphs below. The laboratory was instructed to use a "positive stop" analysis method; under this method, if one sample of a homogeneous material is found to contain asbestos, the remaining samples of that same homogeneous material are not analyzed and are assumed to contain asbestos.

- **Main Building, Barn Area Interior, Roof and Exterior** – A total of 29 samples were collected from these areas of the Main Building (including the exterior surfacing of the water storage tank). Samples of the built-up roof and the base flashings, and the joint sealant for the exterior wall panels were found to contain asbestos. These materials are defined as Category I non-friable ACM and were observed to be in good condition.
- **Main Building, Incinerator Area** – A total of 23 samples were collected from this area of the Main Building. No samples of asbestos-containing materials were identified.
- **Main Building, Administration Area** – A total of 33 samples were collected from this area of the Main Building. Samples of the following materials were found to contain asbestos: 12-inch square brown floor tile/mastic, 12-inch square tan floor tile/mastic, 12-inch square white floor tile/mastic, 12-inch square blue floor tile/mastic, 12-inch square red floor tile/mastic, and sheet floor covering. These materials are defined as Category I non-friable ACM and were observed to be in good condition.
- **Boiler Building** – A total of 10 samples were collected from this building. Samples of the built-up roof and the base flashings were found to contain asbestos. These materials are defined as Category I non-friable ACM and were observed to be in good condition.
- **Control Building** – A total of 29 samples were obtained from this building (including the exterior surfacing of the Boiler Building and Wastewater Treatment Structure). Samples of the following materials were found to contain asbestos: sink undercoating, 12-inch square red floor tile/mastic, 12-inch square blue floor tile/mastic, built-up roof and base flashings. These materials are defined as Category I non-friable ACM and were observed to be in good condition.
- **Storage Building** - No suspect asbestos-containing materials were identified.
- **Wastewater Treatment Structure** - No samples of asbestos-containing materials were identified (samples from this structure were limited to exterior surfacing and were grouped with those of the Control Building).

- **Water Storage Tank** - No samples of asbestos-containing materials were identified (samples of the this structure were limited to exterior surfacing and were grouped with the Barn Area of the Main Building).

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

The following section outlines our assessments and recommendations for the asbestos-containing materials identified in LAW's survey of The Facility.

The identified Category I non-friable building materials were in good condition at the time of the survey. Prior to future renovation activities that would disturb these materials, we recommend that these asbestos-containing materials be removed by a State of Florida licensed Asbestos Removal Contractor in accordance with plans and specifications prepared by a licensed Florida Asbestos Consultant. Additionally, while these materials remain within the facility, we recommend that they be maintained in an asbestos Operations and Maintenance (O&M) Program.

If the building is selected for demolition, the asbestos-containing materials identified in this report may be addressed by utilizing a wet demolition method and may be disposed of as construction debris, provided they are not exposed to cutting, sanding, grinding, abrading, or otherwise rendered friable by the demolition operation. If the identified ACM's are left in place during demolition, the demolition operation must comply with the requirements for Class II asbestos work specified in the OSHA construction standard for asbestos (29 CFR 1926.1101).

Due to the health hazard and legal ramifications involved in asbestos exposure in public buildings, an interdisciplinary approach between engineering, medical and legal communities should be involved when determining an asbestos control program. There is presently a high amount of litigation in the courts concerning present and past asbestos exposure in public and private facilities, as well as the work place environment. One basis for much of the litigation stems from the lack of adequate notification, by the building owner to building occupants/employees following the identification of asbestos in buildings. There are presently many differing ideas as to what constitutes "adequate" notification.

An additional consideration for employers located in Florida involves the Florida Right-to Know Law, Chapter 442, Florida Statutes. Generally, this law imposes on employers an obligation to inform employees of the toxic substances to which they are exposed in the work place, and to

provide training in safe handling practices and emergency procedures. It also requires notification to local fire departments of the location and characteristics of all toxic substances regularly in the work place. Our review of the Florida Substance List (substances covered under Chapter 442, Florida Statutes) revealed that asbestos dust is covered by this statute.

We recommend that you involve appropriate legal counsel in your asbestos control program to address these very important issues.

## 7.0 ASBESTOS ABATEMENT AND MATERIAL REPLACEMENT OPINIONS OF COST

We understand that the facility may either be demolished and disposed of in its entirety, or renovated for future use. If the facility is demolished, the asbestos-containing materials identified in this report may be addressed by utilizing a wet demolition method and may be disposed of as construction debris. Based on our past experience, the requirement of a wet demolition method typically results in an insignificant or no additional cost to the original amount.

If the facility is selected for renovations, we recommend that the asbestos-containing materials (ACMs) be removed as described in Section 6.0 above. The following opinions of costs are an unrefined estimate for the cost of removal of ACMs in a single phase and the installation of replacement materials and do not include consulting or testing costs. Unpredictable variables such as phased removal, seasonal workloads, contractor commitments and cost of insurance and bonding may have a major impact on overall removal costs. Additionally, these opinions of costs are based upon our understanding of costs in your geographic area. Costs for replacement materials were based on our past experience and information in the *RS Means Building Construction Cost Data, 56<sup>th</sup> Edition*.

Our opinions of cost for the removal and replacement of the identified asbestos-containing materials are categorized per structure in Table I below:

**TABLE I**  
**QUANTITIES OF ASBESTOS-CONTAINING MATERIALS AND OPINION OF COST**  
**FOR THEIR REMOVAL AND REPLACEMENT**

BUILDING/AREA	ASBESTOS-CONTAINING MATERIAL	QUANTITY (SQUARE FEET OR LINEAR FEET)	UNIT COST FOR REMOVAL AND REPLACEMENT	OPINION OF COST FOR REMOVAL AND REPLACEMENT
Main Building/ Roof	Built-up roof	92,000 SF	\$5 to \$6.50 per square foot	\$460,000 to \$552,000
Main Building/ Roof	Base flashing	4,000 LF	Included in Built-up Roof Removal and Replacement	Included in Built-up Roof Removal and Replacement
Main Building/ Barn	Joint Sealant for Exterior Wall Panels	1,000 LF	\$8 to \$10 per linear foot	\$8,000 to \$10,000
Main Building/ Administration Area	12-inch square brown floor tile/mastic	900 SF	\$3 to \$3.50 per square foot	\$2,700 to \$3,150
Main Building/ Administration Area	12-inch square tan floor tile/mastic	500 SF	\$3 to \$3.50 per square foot	\$1,500 to \$1,750
Main Building/ Administration Area	12-inch square white floor tile/mastic	1,100 SF	\$3 to \$3.50 per square foot	\$3,300 to \$3,850
Main Building/ Administration Area	12-inch square blue floor tile/mastic	150 SF	\$3 to \$3.50 per square foot	\$450 to \$525
Main Building/ Administration Area	12-inch square red floor tile/mastic	100 SF	\$3 to \$3.50 per square foot	\$300 to \$350
Main Building/ Administration Area	Sheet floor covering	200 SF	\$4.50 to \$5	\$900 to \$1,000
Boiler Building/ Roof	Built-up roof	1,100 SF	\$5 to \$6.50 per square foot	\$5,500 to \$7,150
Boiler Building/ Roof	Base flashing	250 LF	Included in Built-up Roof Removal and Replacement	Included in Built-up Roof Removal and Replacement
Control Building	Sink undercoating	10 SF (2 sinks)	\$500 to \$600 each	\$1,000 to \$1,200
Control Building	12-inch square red floor tile/mastic	400 SF	\$3 to \$3.50 per square foot	\$1,200 to \$1,400
Control Building	12-inch square blue floor tile/mastic	20 SF	\$3 to \$3.50 per square foot	\$60 to \$70
Control Building	Built-up roof	1,900 SF	\$5 to \$6.50 per square foot	\$9,500 to \$12,350
Control Building	Base flashing	300 LF	Included in Built-up Roof Removal and Replacement	Included in Built-up Roof Removal and Replacement
<b>Total Opinion of Costs for Removal and Replacement of ACM</b>				<b>\$ 494,410 to \$ 594,795 *</b>
Cost of Operations and Maintenance Manual Preparation, Recommended While the ACMs Remain in the Building				\$3,800

\* These costs for removal and replacement of Asbestos-Containing Materials are provided as general information. Removal and replacement of the ACMs is not required for the buildings to remain.

## 8.0 QUALIFICATIONS

LAW has endeavored to observe the existing conditions within the specified structures using generally accepted procedures. Regardless of the thoroughness of a survey, there is always the possibility that some areas containing asbestos were inaccessible or different from those at specific sample locations. Therefore, conditions at every location may not be as anticipated and as summarized in this report. In addition, renovation or demolition may uncover altered or differing conditions. We recommend that you notify LAW if any changed conditions are encountered so that we can assess the situation and its impact on our original recommendations.

This report is intended for the exclusive use of Hanson Engineers, Inc. (Hanson) and The United States Department of Agriculture (USDA). Reliance on this report by the USDA is subject to the same terms and conditions in our contract with Hanson. Use of this report or reliance upon information contained in this report by any other party acts as an agreement by that party to the same terms and conditions under which our services were provided. Furthermore, any use of this report by a party for purposes beyond those intended by LAW and Hanson will be at the risk of that party.

## **APPENDIX A**

### **ACCREDITATION CERTIFICATES LABORATORY CERTIFICATES**



**LAW COMPANIES TRAINING CENTER  
OPERATED BY LAW/SPEAR, L.L.C.**

112 Town Park Drive, Kennesaw, Georgia, 30144-5508  
(770) 499-6700

**This is to certify that**

***Todd M. Ryba - 17606***

has completed the requisite training for Asbestos Accreditation  
under TSCA Title II for the "Asbestos-In-Buildings: Inspector Refresher Course"

February 27, 1999  
Course Dates

February 27, 1999  
Examination Date

February 27, 2000  
Expiration Date

Miami Lakes, Fl.  
Course Location

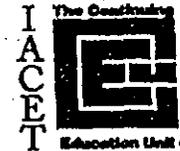


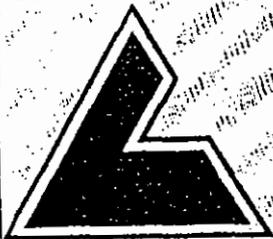
*Lance S. Barron*

Lance S. Barron, Assoc. Director

This training qualifies for 4 Professional Development Hours  
in accordance with the current Georgia continuing education  
guidelines for Professional Engineers

CEU Sponsor Member Number 203003 CEU Awarded: 0.35





# LAW COMPANIES TRAINING CENTER OPERATED BY LAW/SPEAR, L.L.C.

112 Town Park Drive, Kennesaw, Georgia, 30144-5508  
(770) 499-6700

This is to certify that

Hernan Villegas, Jr. - 17607

has completed the requisite training for Asbestos Accreditation  
under TSCA Title II for the "Asbestos-In-Buildings, Inspector Refresher Course"

February 27, 1999  
Course Dates

February 27, 1999  
Examination Date

February 27, 2000  
Expiration Date

Miami Lakes, FL  
Course Location



*Lance S. Barron*

Lance S. Barron, Assoc. Director

This training qualifies for 4 Professional Development Hours  
in accordance with the current Georgia continuing education  
guidelines for Professional Engineers  
CEU Sponsor Member Number 203003 CEU Awarded: 0.35

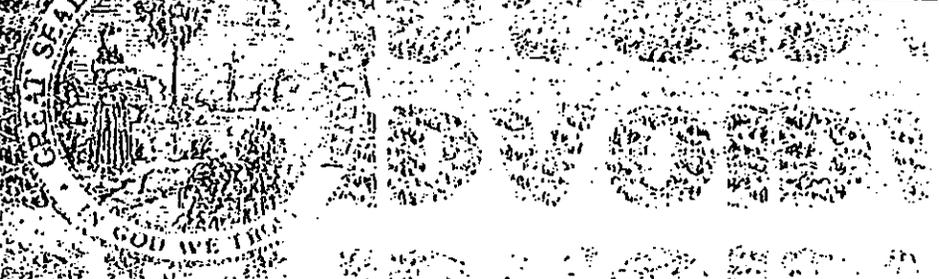


STATE OF FLORIDA  
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION  
ADDRESS

DATE	BATCH NUMBER	EXPIRE DATE	EXPIRE NBR
06/10/00	00000000	00000000	00000000

The ASBESTOS CONSULTANT  
Names below are REGISTERED  
Under the provisions of Chapter 465  
Expiration date: NOV 30 2000

DUCHENE, BRIAN JAMES  
405 EAST ROBINSON ST STE 230  
ORLANDO FL 32801



LAWTON CHILES  
COMMISSIONER

DISPLAY AS REQUIRED BY LAW

RICHARD T. FARRELL  
SECRETARY

STATE OF FLORIDA AC# 53737

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

EA -0000075-10/10/1998 9890157

ASBESTOS CONSULTANT  
 DUCHENE, BRIAN JAMES

IS LICENSED under the provisions of Ch. 469

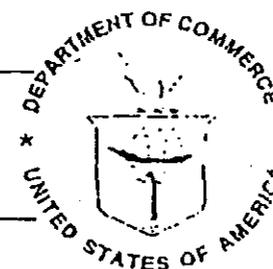
Expiration Date: NOV 30, 2000

United States Department of Commerce  
National Institute of Standards and Technology

# NVLAP<sup>®</sup>

ISO/IEC GUIDE 25:1990  
ISO 9002:1987

## Certificate of Accreditation



**LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.**  
MIAMI LAKES, FL

*is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:*

**BULK ASBESTOS FIBER ANALYSIS**

March 31, 2000

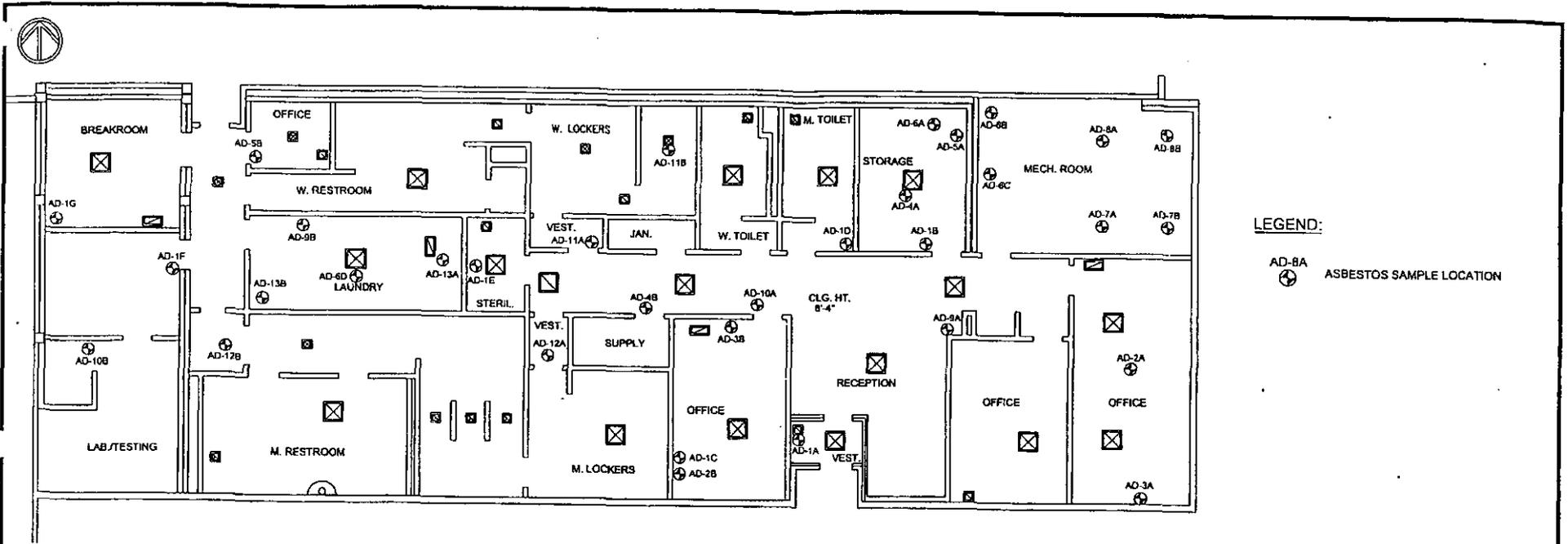
Effective through

A handwritten signature in black ink, appearing to read "John L. Galt".

For the National Institute of Standards and Technology

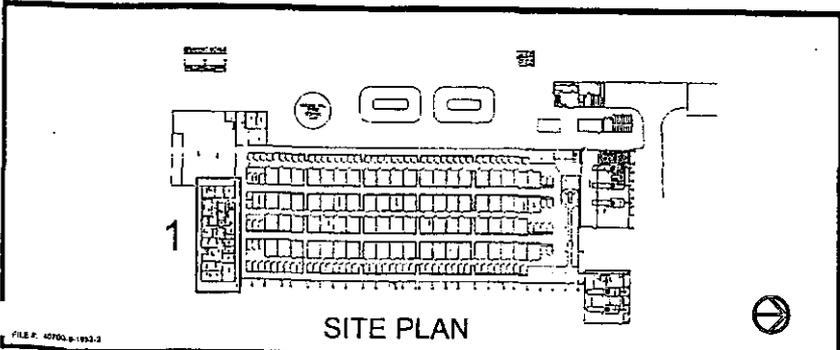
NVLAP Lab Code: 101515-1





**LEGEND:**  
 AD-8A  
 ASBESTOS SAMPLE LOCATION

**1 ADMINISTRATION AREA**



**SITE PLAN**

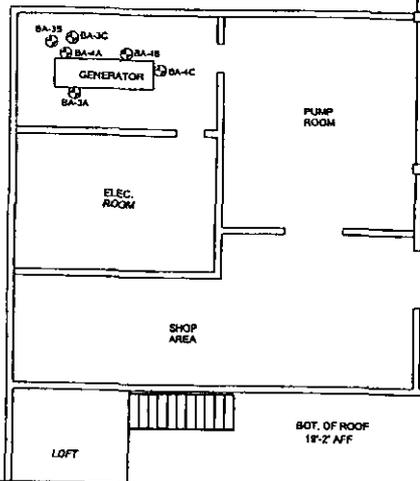
U.S.D.A.  
 A.P.H.I.S FACILITY  
 KEY WEST, FLORIDA  
 LAW PROJECT NUMBER: 40700-9-1952

**LAW**  
 LAWGIBB Group Member  
 LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.  
 5845 N.W. 158th STREET  
 MIAMI LAKES, FL 33014

<b>FIGURE 2A</b>	
ADMINISTRATION AREA MAP ASBESTOS SAMPLE LOCATIONS	
DRAWN BY: N.A.B.	DATE: 06/22/99
CHECKED BY: T.R.	SCALE: AS SHOWN

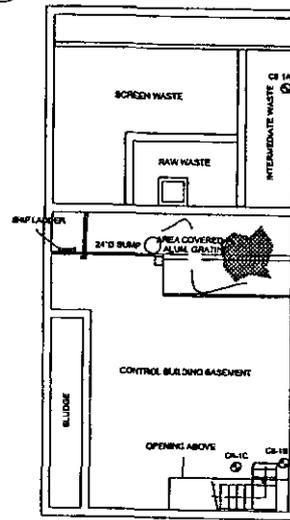
FILE # 40700-9-1952-2

2 MECHANICAL ROOM

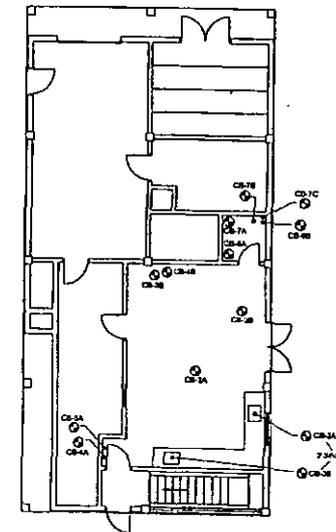


LEGEND:  
 ⊕ ASBESTOS SAMPLE LOCATION

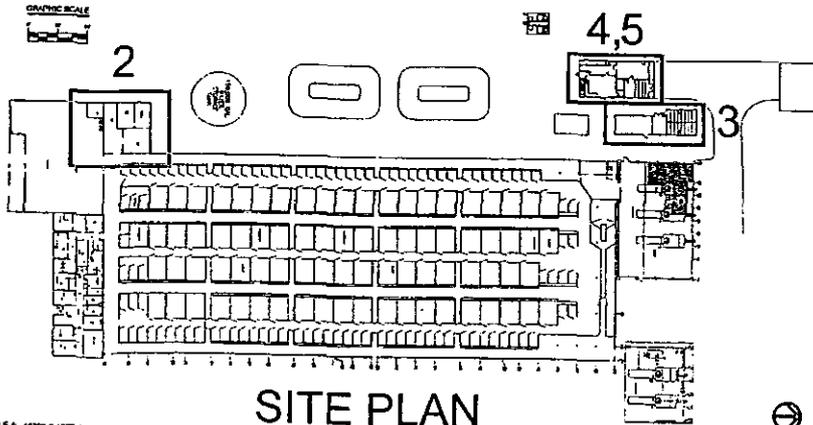
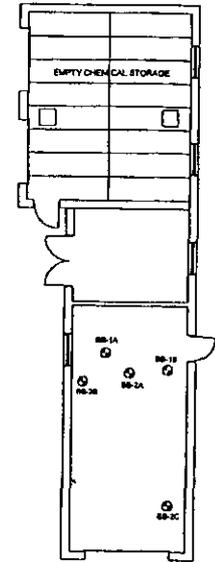
5 CONTROL BUILDING BASEMENT



4 CONTROL BUILDING



3 BOILER BUILDING



SITE PLAN

FILE # 40700-9-1973

U.S.D.A.  
 A.P.H.I.S FACILITY  
 KEY WEST, FLORIDA

LAW PROJECT NUMBER: 40700-9-1952

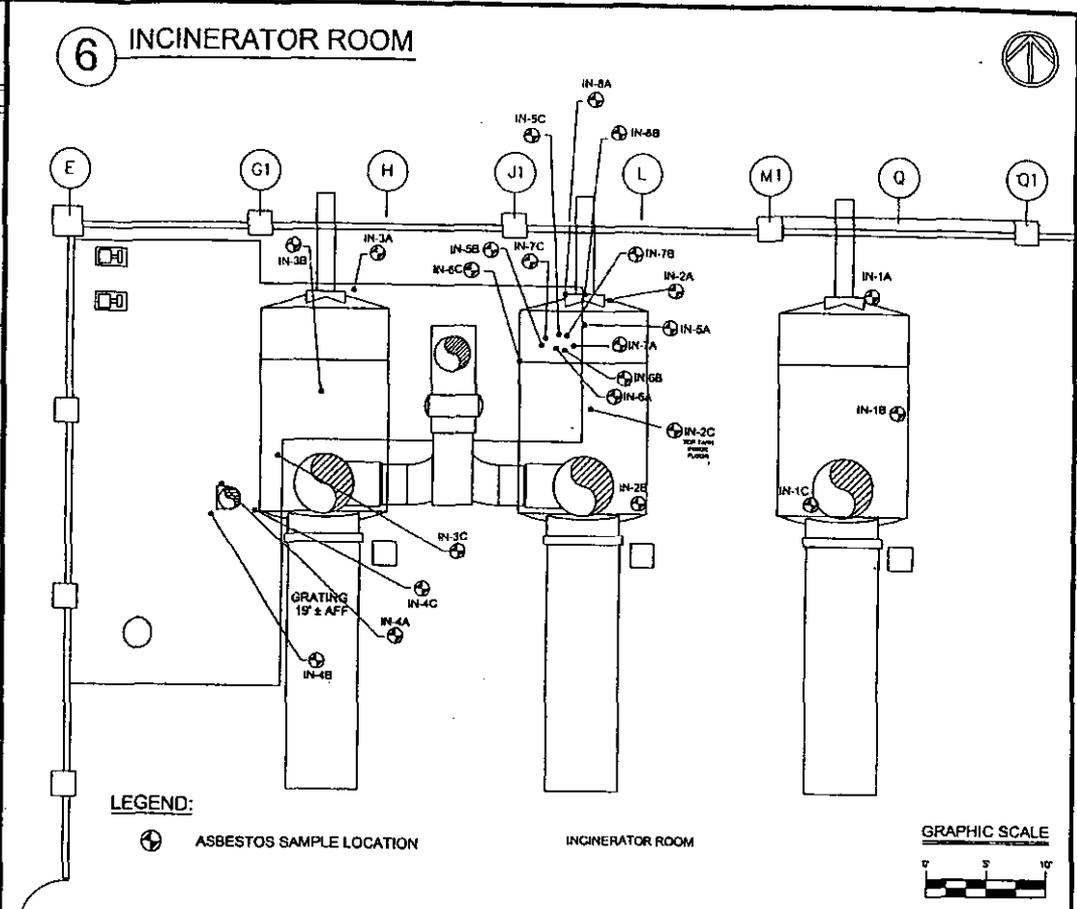
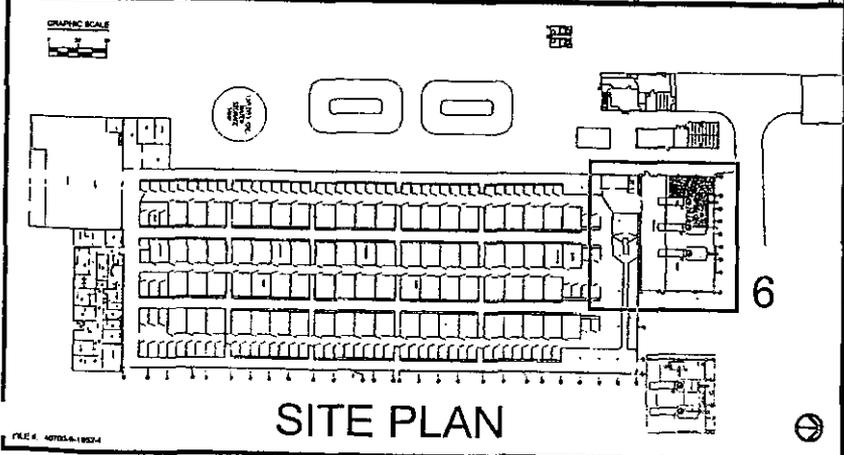
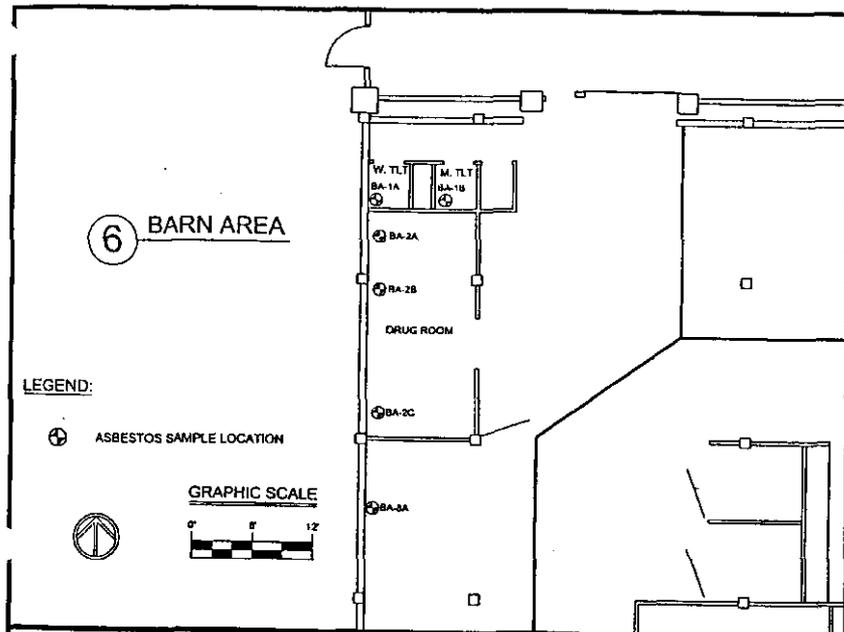
**LAW**

LAWGIBB Group Member  
 LAW ENGINEERING & ENVIRONMENTAL  
 SERVICES, INC.  
 5845 N.W. 158th STREET  
 MIAMI LAKES, FL 33014

FIGURE 3A  
 CONTROL BLDG., BARN, & BOILER BLDG.  
 ASBESTOS SAMPLE LOCATIONS MAP

DRAWN BY: N.A.B. DATE: 06/22/99

CHECKED BY: T.R. SCALE: AS SHOWN



U.S.D.A.  
A.P.H.I.S. FACILITY  
KEY WEST, FLORIDA  
LAW PROJECT NUMBER: 40700-9-1952

**LAW**  
LAWGIBB Group Member  
LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.  
5845 N.W. 158th STREET  
MIAMI LAKES, FL 33014

FIGURE 4A  
INCINERATOR & BARN AREA MAPS  
ASBESTOS SAMPLE LOCATIONS

DRAWN BY: N.A.B.	DATE: 06/22/99
CHECKED BY: T.R.	SCALE: AS SHOWN

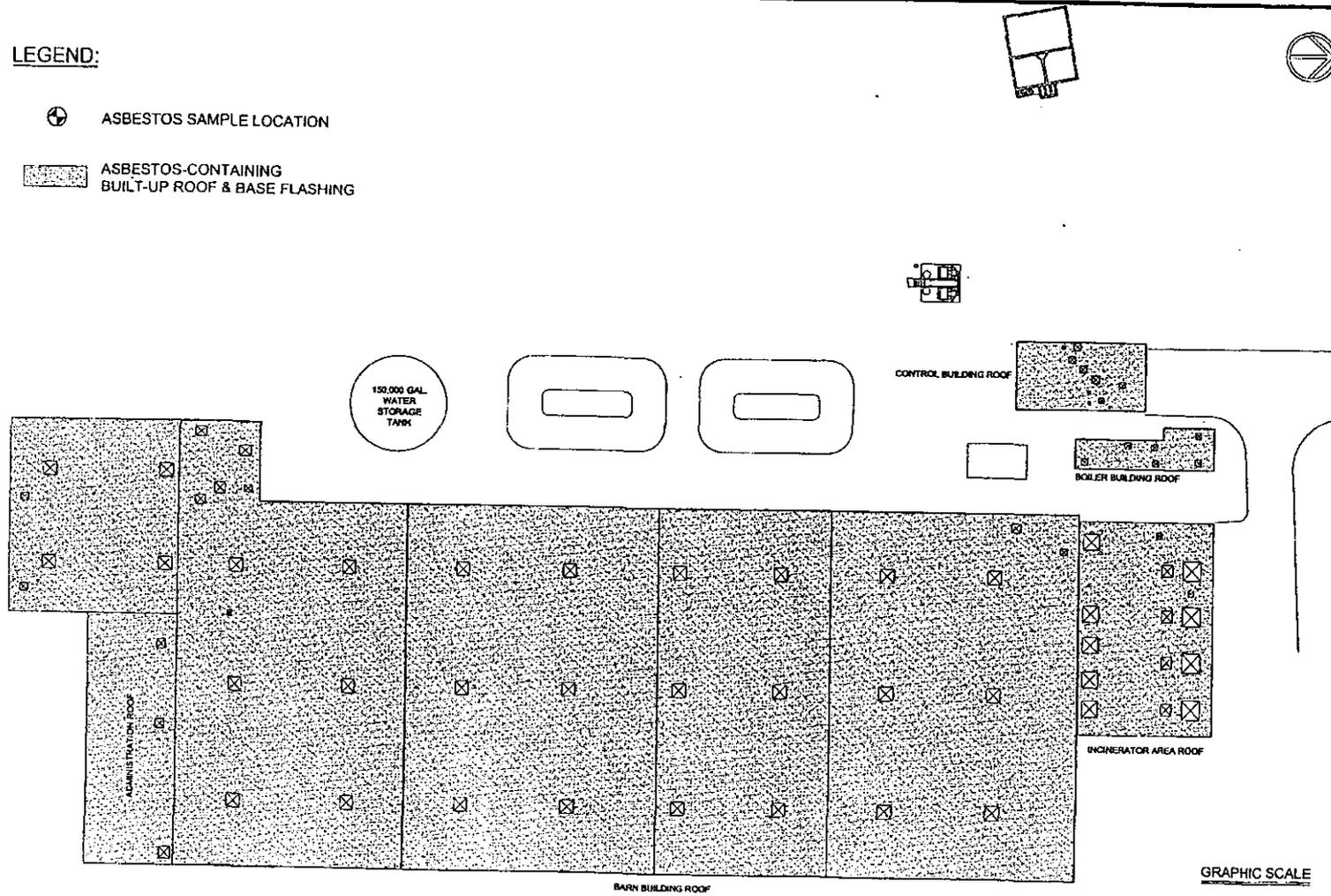
**APPENDIX C**

**DELINEATION OF  
ASBESTOS-CONTAINING MATERIALS**

**LEGEND:**

 ASBESTOS SAMPLE LOCATION

 ASBESTOS-CONTAINING BUILT-UP ROOF & BASE FLASHING



**LAW**  
 LAWGIBB Group Member  
 LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.  
 5845 N.W. 158th STREET  
 MIAMI LAKES, FL 33014

LAW PROJECT NUMBER:  
 40700-9-1952

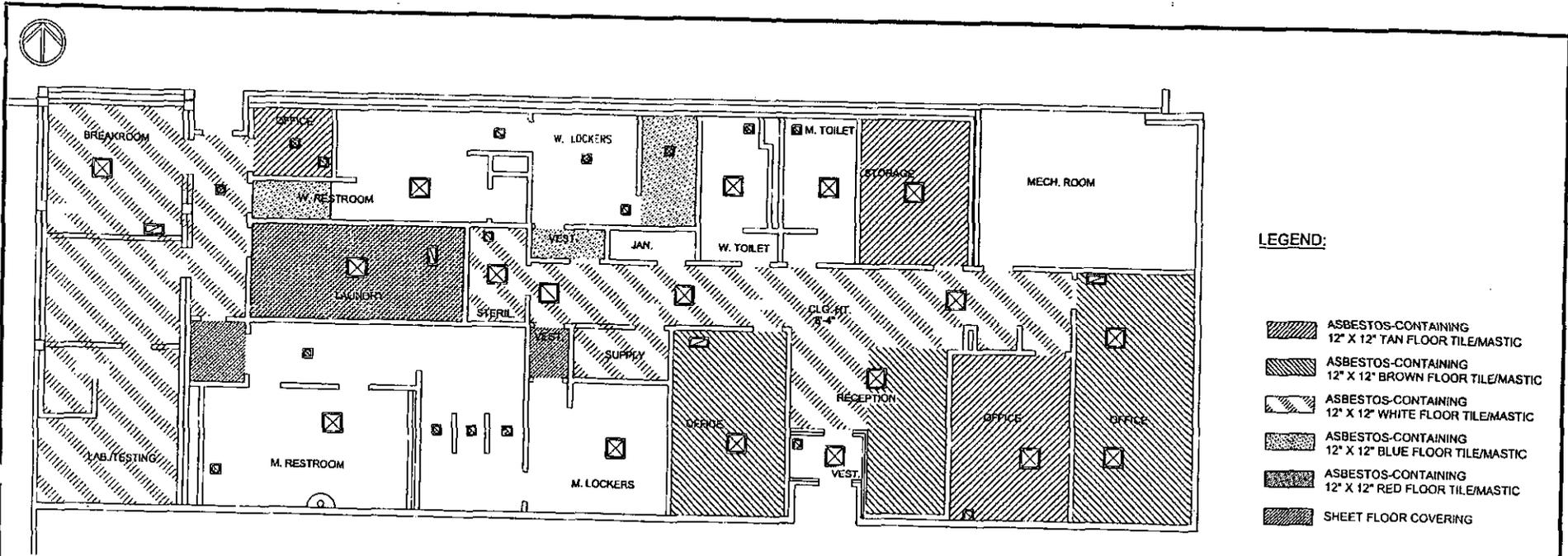
U.S.D.A.  
 A.P.H.I.S. FACILITY

KEY WEST, FLORIDA

FIGURE 1  
 DELINEATION MAP OF  
 ASBESTOS CONTAINING MATERIAL  
 FOR ROOFING & EXTERIOR SURFACING

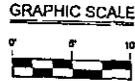
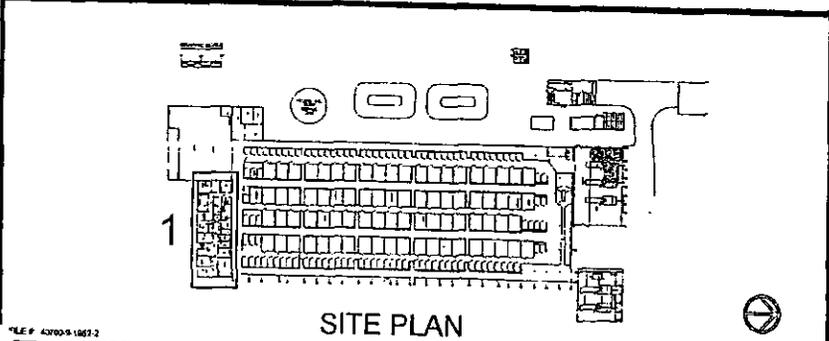
DRAWN BY: N.A.B.	DATE: 08/28/89
CHECKED BY: T.R.	SCALE: AS SHOWN





- LEGEND:**
- ASBESTOS-CONTAINING 12" X 12" TAN FLOOR TILE/MASTIC
  - ASBESTOS-CONTAINING 12" X 12" BROWN FLOOR TILE/MASTIC
  - ASBESTOS-CONTAINING 12" X 12" WHITE FLOOR TILE/MASTIC
  - ASBESTOS-CONTAINING 12" X 12" BLUE FLOOR TILE/MASTIC
  - ASBESTOS-CONTAINING 12" X 12" RED FLOOR TILE/MASTIC
  - SHEET FLOOR COVERING

**1 ADMINISTRATION AREA**

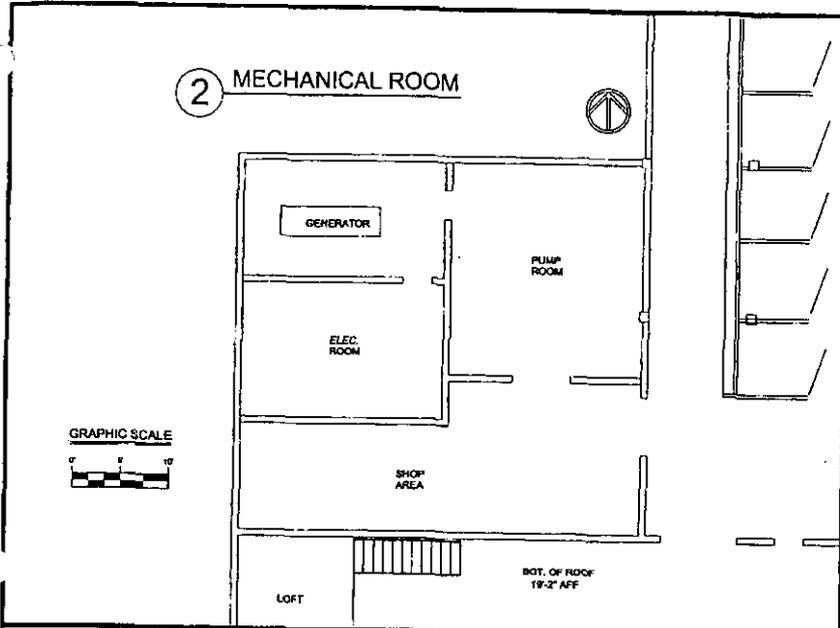


U.S.D.A.  
A.P.H.I.S. FACILITY  
KEY WEST, FLORIDA  
LAW PROJECT NUMBER: 40700-9-1952

**LAW**  
LAWGIBB Group Member  
LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.  
5845 N.W. 158th STREET  
MIAMI LAKES, FL 33014

FIGURE 2 DELINERATION MAP OF ASBESTOS-CONTAINING MATERIALS ADMINISTRATION AREA	
DRAWN BY: N.A.B.	DATE: 06/22/99
CHECKED BY: T.R.	SCALE: AS SHOWN

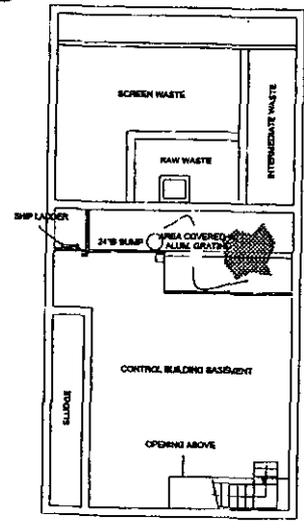
\*LEP 43700-9-1952-2



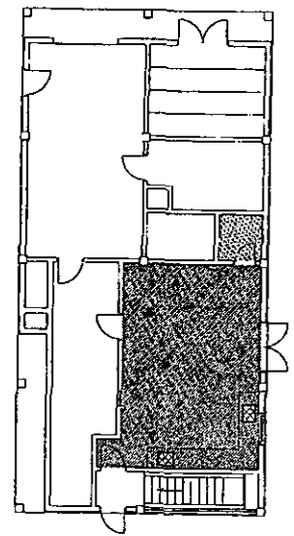
**LEGEND:**

- ASBESTOS SAMPLE LOCATION
- ASBESTOS-CONTAINING 12" X 12" TAN FLOOR TILE/MASTIC
- ASBESTOS-CONTAINING 12" X 12" BROWN FLOOR TILE/MASTIC
- ASBESTOS-CONTAINING 12" X 12" WHITE FLOOR TILE/MASTIC
- ASBESTOS-CONTAINING 12" X 12" BLUE FLOOR TILE/MASTIC
- ASBESTOS-CONTAINING 12" X 12" RED FLOOR TILE/MASTIC
- ASBESTOS-CONTAINING SHEET FLOOR COVERING
- ASBESTOS-CONTAINING SINK UNDERCOATING

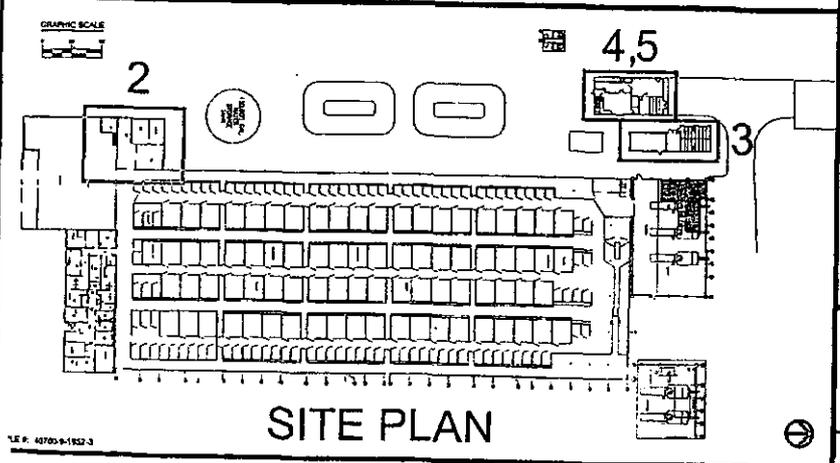
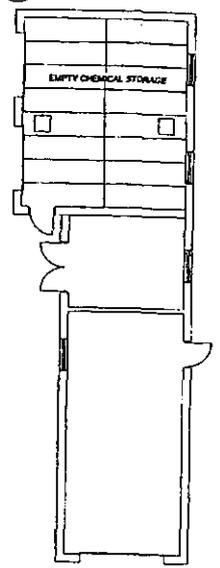
**5 CONTROL BUILDING BASEMENT**



**4 CONTROL BUILDING**



**3 BOILER BUILDING**

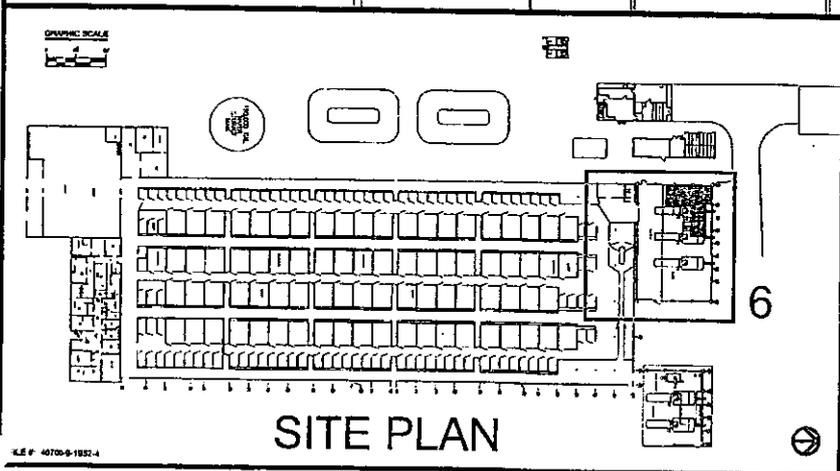
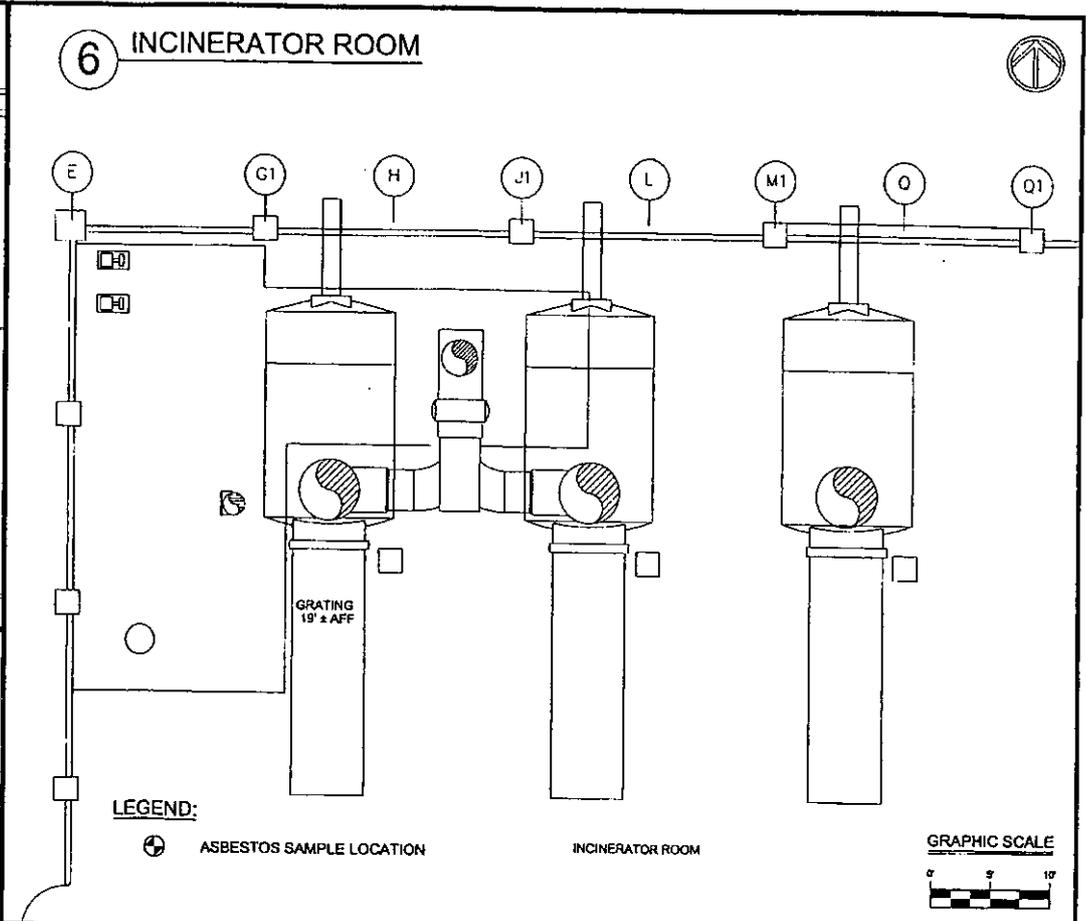
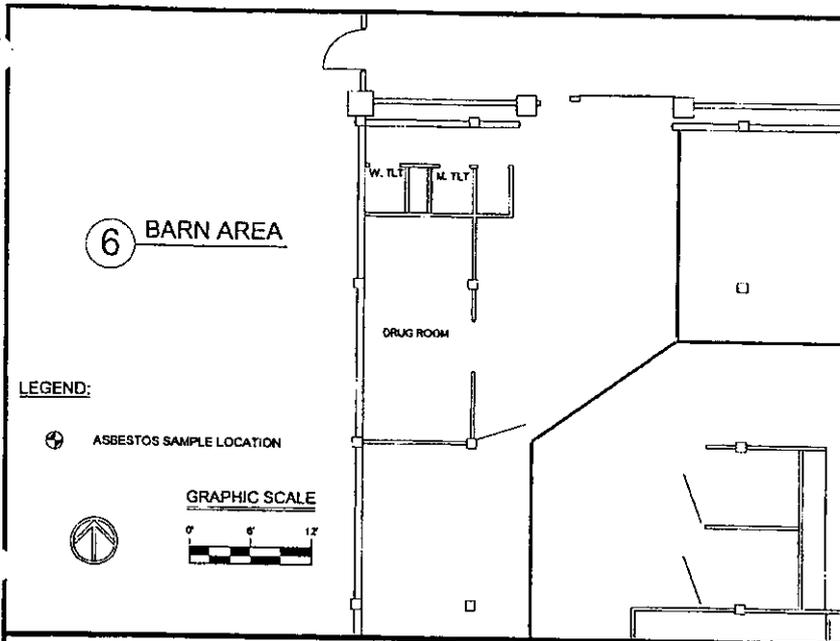


U.S.D.A.  
A.P.H.I.S. FACILITY  
KEY WEST, FLORIDA  
LAW PROJECT NUMBER: 40700-9-1952

**LAW**  
LAWGIBB Group Member  
LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.  
5845 N.W. 158th STREET  
MIAMI LAKES, FL 33014

FIGURE 3  
DELINATION MAP OF  
ASBESTOS-CONTAINING MATERIALS  
CONTROL BLDG., BARN & BOILER BLDG.  
DRAWN BY: N.A.B. DATE: 06/22/99  
CHECKED BY: T.R. SCALE: AS SHOWN

1.E.P. 40700-9-1952-3



U.S.D.A.  
A.P.H.I.S. FACILITY  
KEY WEST, FLORIDA  
LAW PROJECT NUMBER: 40700-9-1952

**LAW**  
LAWGIBB Group Member  
LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.  
5845 N.W. 158th STREET  
MIAMI LAKES, FL 33014

**FIGURE 4**  
DELINATION MAP OF  
ASBESTOS-CONTAINING MATERIALS  
INCINERATOR & BARN AREAS

DRAWN BY: N.A.B.	DATE: 06/22/99
CHECKED BY: T.R.	SCALE: AS SHOWN

K.E.P. 40700-9-1952.4

## **APPENDIX D**

### **SUMMARY OF PLM RESULTS**



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158<sup>th</sup> Street  
Miami, Lakes, Florida 33014 (305) 826-5588

## PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client:	USDA Aphis Facility Closure	Lab No. M2839
Project:	Key West Animal Import Center	Law Job No.40700-9-1952
Client Project No.:	N/A	Report Date: 6/14/99
Identification:	Asbestos, Bulk Sample Analysis	Sample Date:6/14-17/99
Test Method:	Polarized Light Microscopy/ Dispersion Staining (PLM/DS) EPA Method 600/R-93/116	

### STATEMENT OF LABORATORY ACCREDITATION

These samples were analyzed at the Miami Branch of Law Engineering in the Asbestos Laboratory at 5845 N.W. 158<sup>th</sup> Street, Miami Lakes, Florida, 33014. The laboratory holds accreditation from the National Institute of Standards and Technology (formerly National Bureau of Standards) under the National Voluntary Laboratory Accreditation Program (NVLAP).

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Floor tile and other resinously bound materials, when analyzed by the EPA method, may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. When a definitive result is required, Law recommends utilizing alternative methods of identification, including Transmission Electron Microscopy.

Specific questions concerning bulk sample results shall be directed to the PLM laboratory.

Analyst: Chris DuBour

PLM Laboratory Manager: Chris DuBour.

Approved Signatory:



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

## PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc. Lab No. M-2839  
Project: USDA APHIS Facility - Key West, Florida Law Job No. 40700-9-1952  
Client Project No.: N/A Report Date: 6/14/99  
Identification: Asbestos Bulk Sample Analysis Sample Date: 5/27/99  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>INCINERATOR AREA</b>		
IN-1A	East Incinerator Interior Surfacing Bottom Tank Door	None Detected
IN-1B	East Incinerator Interior Surfacing Bottom Tank East Wall	None Detected
IN-1C	East Incinerator Interior Surfacing Bottom Tank West Wall	None Detected
IN-2A	Center Incinerator Interior Surfacing Bottom Tank Door	None Detected
IN-2B	Center Incinerator Interior Surfacing Bottom Tank SE Corner	None Detected
IN-2C	Center Incinerator Interior Surfacing Top Tank Floor	None Detected
IN-3A	West Incinerator - Interior Surfacing Bottom Tank Door	None Detected
IN-3B	West Incinerator - Interior Surfacing Bottom Tank - Floor	None Detected

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>INCINERATOR AREA (continuation)</b>		
IN-3C	West Incinerator - Interior Surfacing Bottom Tank West Wall	None Detected
IN-4A	2.5-foot Diameter Pipe Insulation 3 <sup>rd</sup> Level Bottom	None Detected
IN-4B	2.5-Foot Diameter Pipe Insulation 3 <sup>rd</sup> Level Center Bend in Pipe	None Detected
IN-4C	2.5-Foot Diameter Pipe Insulation 3 <sup>rd</sup> Level 6 Feet Above Grate	None Detected
IN-5A	3-inch & 5-inch Fabric Covered Pipe Insulation 3 <sup>rd</sup> Level Elbow 5" Diameter	None Detected - Insulation None Detected - Wrap
IN-5B	3-inch & 5-inch Fabric Covered Pipe Insulation 4 <sup>th</sup> Level - 5" Diameter Straight Pipe	None Detected - Insulation None Detected - Wrap
IN-5C	3-inch & 5-inch Fabric Covered Pipe Insulation 4 <sup>th</sup> Level 3" Diameter Straight Pipe	None Detected - Insulation None Detected - Wrap
IN-6A	Muffler Insulation 4 <sup>th</sup> Level - Muffler End	None Detected
IN-6B	Muffler Insulation 4 <sup>th</sup> Level - 6" Pipe	None Detected

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>INCINERATOR AREA (continuation)</b>		
IN-6C	Muffler Insulation 3 <sup>rd</sup> Level - 6" Pipe	None Detected
IN-7A	Tank Insulation Center of Tank Body	None Detected - Insulation None Detected - Wrap
IN-7B	Tank Insulation Connection Pipe	None Detected - Insulation None Detected - Gray Insulation None Detected - Wrap
IN-7C	Tank Insulation Tank End	None Detected - Insulation Wrap None Detected - Wrap
IN-8A	Incinerator Fabric Door Gasket Center Tank - Door Side	None Detected
IN-8B	Incinerator Fabric Door Gasket Center Tank - Door Bottom	None Detected
<b>BOILER BUILDING</b>		
BB-1A	Pipe Insulation Gasket 10" Diameter Tank Room - NW Corner	None Detected - Insulation 1 None Detected - Insulation 2
BB-1B	Pipe Insulation Gasket 10" Diameter Tank Room - NE Corner	None Detected - Insulation 1 None Detected - Insulation 2

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

## PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>BOILER BUILDING (Continuation)</b>		
BB-2A	Pipe Insulation 5" Diameter Tank Room - North Center	None Detected - Insulation/Wrap None Detected - White Material
BB-2B	Pipe Insulation 5" Diameter Tank Room - NW Corner	None Detected - Insulation/Wrap None Detected - White/Brown Material
BB-2C	Pipe Insulation 5" Diameter Tank Room - SE Corner	None Detected - Insulation/Wrap None Detected - Brown Mastic None Detected - White Material
BB-3A	Built-up Roof North End	25% Chrysotile - Felt None Detected - Mastic
BB-3B	Built-up Roof South End	Not Analyzed - Positive Stop
BB-4A	Base Flashing Parapet Wall - SW Corner	20% Chrysotile - Felt None Detected - Mastic
BB-4B	Base Flashing Parapet Wall - NE Corner	Not Analyzed - Positive Stop
BB-4C	Base Flashing NW Exhaust Fan Flashing	Not Analyzed - Positive Stop

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

### PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client:	Hanson Engineers, Inc.	Lab No. M-2839
Project:	USDA APHIS Facility - Key West, Florida	Law Job No. 40700-9-1952
Client Project No.:	N/A	Report Date: 6/14/99
Identification:	Asbestos Bulk Sample Analysis	Sample Date: 5/27/99
Test Method:	Polarized Light Microscopy/ Dispersion Staining (PLM/DS) EPA Method 600/R-93/116	

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>ADMINISTRATION AREA</b>		
AD-1A	Drywall/ Joint Compound Entrance Foyer - West Wall	None Detected - Drywall None Detected - Joint Compound
AD-1B	Drywall/Joint Compound Storage Room - South Wall	None Detected - Drywall None Detected - Joint Compound
AD-1C	Drywall/Joint Compound South Central Office, SW Corner	None Detected - Drywall None Detected - Joint Compound
AD-1D	Drywall/Joint Compound Men's Restroom Ceiling SE Corner	None Detected - Drywall None Detected - Joint Compound
AD-1E	Drywall/Joint Compound Sterile Room - West Wall	None Detected - Drywall None Detected - Joint Compound
AD-1F	Drywall/Joint Compound Lab Room Entrance	None Detected - Drywall None Detected - Joint Compound
AD-1G	Drywall/Joint Compound Breakroom - SW Corner	None Detected - Drywall None Detected - Joint Compound
AD-2A	2'x2' Pinhole Ceiling Panel SE Office - Center	None Detected

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials that are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

## PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client:	Hanson Engineers, Inc.	Lab No. M-2839
Project:	USDA APHIS Facility - Key West, Florida	Law Job No. 40700-9-1952
Client Project No.:	N/A	Report Date: 6/14/99
Identification:	Asbestos Bulk Sample Analysis	Sample Date: 5/27/99
Test Method:	Polarized Light Microscopy/ Dispersion Staining (PLM/DS) EPA Method 600/R-93/116	

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>ADMINISTRATION AREA (continuation)</b>		
AD-2B	2'x2' Pinhole Ceiling Panel South Central Office SW Corner	None Detected
AD-3A	12" x 12" Brown Floor Tile/Mastic SE Office South End	2% Chrysotile - Tile 5% Chrysotile - Mastic
AD-3B	12" x 12" Brown Floor Tile/Mastic South Central Office - North End	Not Analyzed - Positive Stop
AD-4A	2'x2' Wormhole Ceiling Panel Storage Room - Center	None Detected
AD-4B	2'x2' Wormhole Ceiling Panel Hallway Outside Janitor's Closet	None Detected
AD-5A	12" x 12" Tan Floor Tile/Mastic Storage Room NE Corner	2% Chrysotile - Tile 5% Chrysotile - Mastic
AD-5B	12" x 12" Tan Floor Tile/Mastic North West Office - Entrance	Not Analyzed - Positive Stop
AD-6A	3-inch & 5-inch Diameter Pipe Insulation Storage Room - NE Corner 3" in Diameter	None Detected - Insulation None Detected - Wrap

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014. (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>ADMINISTRATION AREA (continuation)</b>		
AD-6B	3" x 5" Diameter Pipe Insulation Mechanical Room - NW Corner 3" in Diameter	None Detected - Insulation None Detected - Wrap
AD-6C	3" x 5" Diameter Pipe Insulation Mechanical Room Vertical Run of 5" Pipe	None Detected - Insulation None Detected - Wrap
AD-6D	3" x 5" Diameter Pipe Insulation West End of Hall	None Detected - Insulation None Detected - Wrap
AD-7A	White Mastic on Air Handler Mechanical Room SW Corner of Unit	None Detected
AD-7B	White Mastic on Air Handler Mechanical Room East End of Unit	None Detected
AD-8A	Gray Mastic on Air Handler Mechanical Room North End of Unit	None Detected
AD-8B	Gray Mastic on Air Handler Mechanical Room NE Corner of Unit	None Detected
AD-9A	Brown Wall Base Trim/ Mastic Entrance Hall by Drinking Fountain	None Detected - Baseboard None Detected - Mastic
AD-9B	Brown Wall Base Trim/ Mastic Laundry Room NW Corner	None Detected - Baseboard None Detected - Mastic

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

### PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>ADMINISTRATION AREA (continuation)</b>		
AD-10A	12" x 12" White Floor Tile/Mastic Entrance Hall by South Central Office	5% Chrysotile - Tile 3% Chrysotile - Mastic
AD-10B	12" x 12" White Floor Tile/Mastic Lab Testing - West End	Not Analyzed - Positive Stop
AD-11A	12" x 12" Blue Floor Tile/Mastic South Entrance to Women's Locker Room	2% Chrysotile - Tile None Detected - Mastic
AD-11B	12" x 12" Blue Floor Tile/Mastic Women's Locker Room Storage - North End	Not Analyzed - Positive Stop
AD-12A	12" x 12" Red Floor Tile/Mastic North Entrance to Men's Locker Room	2% Chrysotile - Tile 7% Chrysotile - Mastic
AD-12B	12" x 12" Red Floor Tile/Mastic West Entrance to Men's Locker Room	Not Analyzed - Positive Stop
AD-13A	Sheet Flooring with Mastic Laundry Room East End	5% Chrysotile - Flooring None Detected - Mastic
AD-13B	Sheet Flooring with Mastic Laundry Room West End	Not Analyzed - Positive Stop

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

### PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>BARN AREA</b>		
BA-1A	Brown Wall Base Trim Women's Restroom	None Detected - Baseboard None Detected - Mastic
BA-1B	Brown Wall Base Trim Men's Restroom	None Detected - Baseboard None Detected - Mastic
BA-2A	4-Inch Diameter Pipe Insulation Drug Room - Vertical Run	None Detected - Insulation None Detected - Wrap
BA-2B	4-Inch Diameter Pipe Insulation Drug Room - Horizontal Run North End	None Detected - Insulation None Detected - Wrap
BA-2C	4-inch Diameter Pipe Insulation Drug Room - Horizontal Run South End	None Detected - Insulation None Detected - Wrap
BA-3A	Muffler Pipe Elbow Generator Room - SW Pipe	None Detected - Insulation None Detected - Wrap
BA-3B	Muffler Pipe Elbow Generator Room - NE Pipe	None Detected - Insulation None Detected - Wrap
BA-3C	Muffler Pipe Elbow Generator Room - NE Pipe East Side	None Detected - Insulation None Detected - Wrap

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>BARN AREA (continuation)</b>		
BA-4A	Muffler Tank Insulation Muffler Tank West End	None Detected
BA-4B	Muffler Tank Insulation Muffler Tank Center	None Detected
BA-4C	Muffler Tank Insulation Muffler Tank Exhaust Pipe	None Detected
BA-5A	Built-up Roof Incinerator Roof - Center	None Detected - Insulation 25% Chrysotile - Felt None Detected - Mastic
BA-5B	Built-up Roof Barn Roof - NW Corner	Not Analyzed - Positive Stop
BA-5C	Built-up Roof Center of 2 <sup>nd</sup> Roof Area from North End	Not Analyzed - Positive Stop
BA-5D	Built-up Roof NW Corner of Feed Warehouse Roof	Not Analyzed - Positive Stop
BA-6A	Base Flashing Incinerator Room Roof NW Corner Exhaust Curb	25% Chrysotile

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>BARN AREA (continuation)</b>		
BA-6B	Base Flashing Barn Roof - Parapet Wall N. End of E. Wall	Not Analyzed - Positive Stop
BA-6C	Base Flashing Center of 2 <sup>nd</sup> Expansion Joint form North End	Not Analyzed - Positive Stop
BA-6D	Base Flashing Admin. Roof Area - W. Wall	Not Analyzed - Positive Stop
BA-6E	Base Flashing Mechanical Curb Flashing NW Corner of Feed Warehouse	Not Analyzed - Positive Stop
BA-7A	Exterior Wall Textured Surfacing South Wall Incinerator Room, From Barn Roof Level	None Detected
BA-7B	Exterior Wall Textured Surfacing Center of West Wall	None Detected
BA-7C	Exterior Wall Textured Surfacing NW Wall of Storage Tank	None Detected
BA-7D	Exterior Wall Textured Surfacing SW Wall of Storage Tank	None Detected

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>BARN AREA (continuation)</b>		
BA-7E	Exterior Wall Textured Surfacing Center of North Wall of Incinerator Area	None Detected
BA-7F	Exterior Wall Textured Surfacing South End of East Wall	None Detected
BA-7G	Exterior Wall Textured Surfacing South Wall of Admin. Area	None Detected
BA-8A	Wall Joint Sealant NW Corner of Barn Interior	5% Chrysotile
BA-8B	Wall Joint Sealant SW Corner of Barn Interior	Not Analyzed - Positive Stop
<b>CONTROL BUILDING</b>		
CB-1A	4" Diameter Pipe Insulation Basement - South East	None Detected - Insulation None Detected - Wrap
CB-1B	4" - Diameter Pipe Insulation Basement - South West	None Detected - Insulation None Detected - Wrap
CB-1C	4" Diameter Pipe Insulation Basement - West Center	None Detected - Insulation None Detected Wrap

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>CONTROL BUILDING (continuation)</b>		
CB-2A	2'x2' Ceiling Panel Control Room - Center	None Detected
CB-2B	2'x2' Ceiling Panel Control Room - Southeast	None Detected
CB-3A	Sink Undercoating Control Room - South Sink	7% Chrysotile
CB-3B	Sink Undercoating Control Room - West Sink	Not Analyzed - Positive Stop
CB-4A	Brown Wall Base Trim Control Room - North West	None Detected - Baseboard None Detected - Mastic
CB-4B	Brown Wall Base Trim Control Room - East Wall	None Detected - Baseboard None Detected - Mastic
CB-5A	12" x12" Red Floor Tile and Mastic Control Room NW	<1% Chrysotile - Tile 5% Chrysotile - Mastic
CB-5B	12" x12" Red Floor Tile and Mastic Control Room East Center	Not Analyzed - Positive Stop

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



## PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>CONTROL BUILDING (continuation)</b>		
CB-6A	12" x 12" Blue Floor Tile and Mastic Rest Room - Northwest	None Detected - Tile 5% Chrysotile - Mastic
CB-6B	12" x 12" Blue Floor Tile and Mastic Rest Room - Southeast	Not Analyzed - Positive Stop
CB-7A	Drywall/Joint Compound Rest Room - North End of East Wall	None Detected - Drywall None Detected - Joint Compound
CB-7B	Drywall/Joint Compound Rest Room - Center of East Wall	None Detected - Drywall None Detected - Joint Compound
CB-7C	Drywall/Joint Compound Rest Room - South End of East Wall	None Detected - Drywall None Detected - Joint Compound
CB-8A	Exterior Stucco Control Building East Center	None Detected
CB-8B	Exterior Stucco Control Building - North Center	None Detected
CB-8C	Exterior Stucco Control Building - West Center	None Detected

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



### PLM REPORT SUMMARY

Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>CONTROL BUILDING (continuation)</b>		
CB-8D	Exterior Stucco Boiler Building - NW Corner	None Detected
CB-8E	Exterior Stucco Boiler Building - SE Corner	None Detected
CB-8F	Exterior Stucco Waste Water Treatment Structure South Wall	None Detected
CB-8G	Exterior Stucco Waste Water Treatment Structure NE Corner	None Detected
CB-9A	Built-up Roof SE Corner of Roof	20% Chrysotile - Felt None Detected - Mastic
CB-9B	Built-up Roof Center of Roof	Not Analyzed - Positive Stop
CB-9C	Built-up Roof NW Corner of Roof	Not Analyzed - Positive Stop
CB-10A	Base Flashing Parapet Wall - East	15% Chrysotile

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.



Law Engineering and Environmental Services, Inc.  
5845 N.W. 158 Street  
Miami, Florida 33014, (305) 826-5588

## PLM REPORT SUMMARY

NVLAP Lab No. 101515-1

Client: Hanson Engineers, Inc.  
Project: USDA APHIS Facility - Key West, Florida  
Client Project No.: N/A  
Identification: Asbestos Bulk Sample Analysis  
Test Method: Polarized Light Microscopy/ Dispersion Staining (PLM/DS)  
EPA Method 600/R-93/116

Lab No. M-2839  
Law Job No. 40700-9-1952  
Report Date: 6/14/99  
Sample Date: 5/27/99

On 5/27/99, one-hundred and twenty-four (124) bulk material samples were submitted by Todd Ryba for asbestos analysis by PLM/DS. The results are summarized below. Additional information may be found on copies of the lab data sheets.

Lab Sample No.	Sample Description/ Location	Asbestos Content
<b>CONTROL BUILDING (continuation)</b>		
CB-10B	Base Flashing Parapet Wall - North	Not Analyzed - Positive Stop
CB-10C	Base Flashing Exhaust Fan Curb in Center of Roof	Not Analyzed - Positive Stop

These samples were analyzed by layers. Specific layer or component asbestos content is indicated when relevant. The EPA considers a material to be asbestos containing only if it contains more than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) materials which are friable or may become friable - be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. Our laboratory utilizes CVAE on a routine basis and does not include point counting unless specifically requested. The results may not be reproduced except in full, and should not be used as a scope of work for abatement without consulting with Law Engineering.

**APPENDIX E**

**PHOTOGRAPHIC DOCUMENTATION**

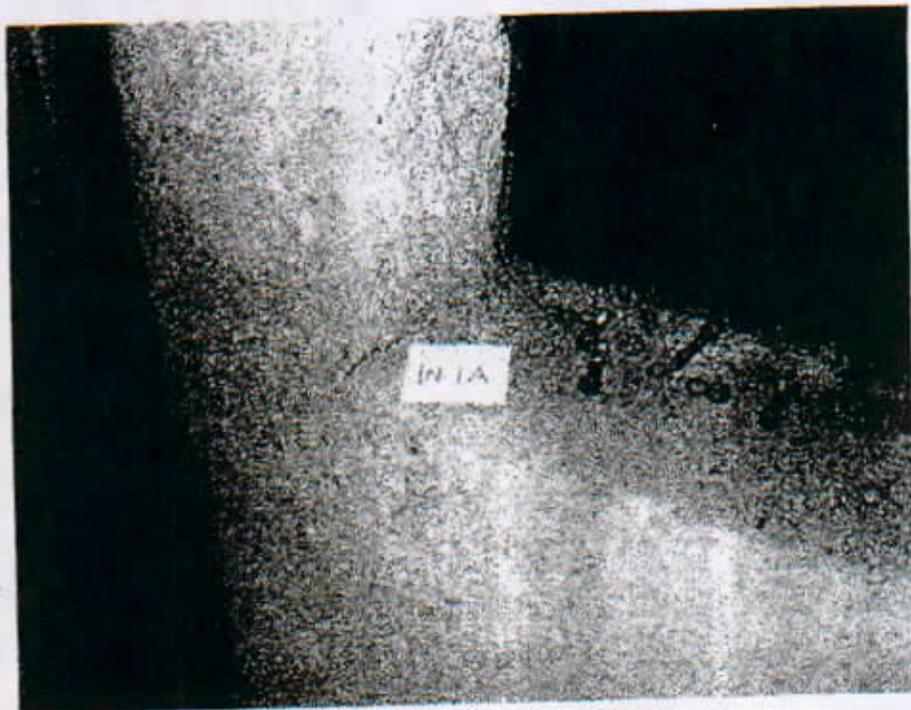


Photo No.1 East incinerator interior surfacing.



Photo No.2 Center incinerator interior surfacing.



Photo No.3 West incinerator - interior surfacing.



Photo No.4 2.5 foot diameter pipe insulation.



Photo No.5 3-inch & 5-inch diameter fabric-covered pipe insulation.

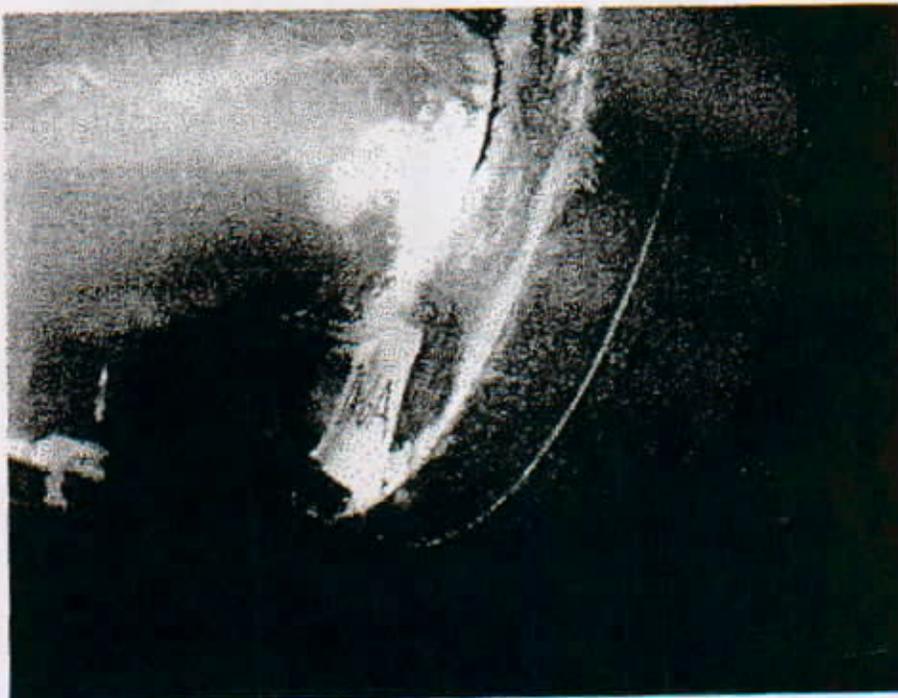


Photo No.6 Muffler insulation.



Photo No.7 Tank insulation.

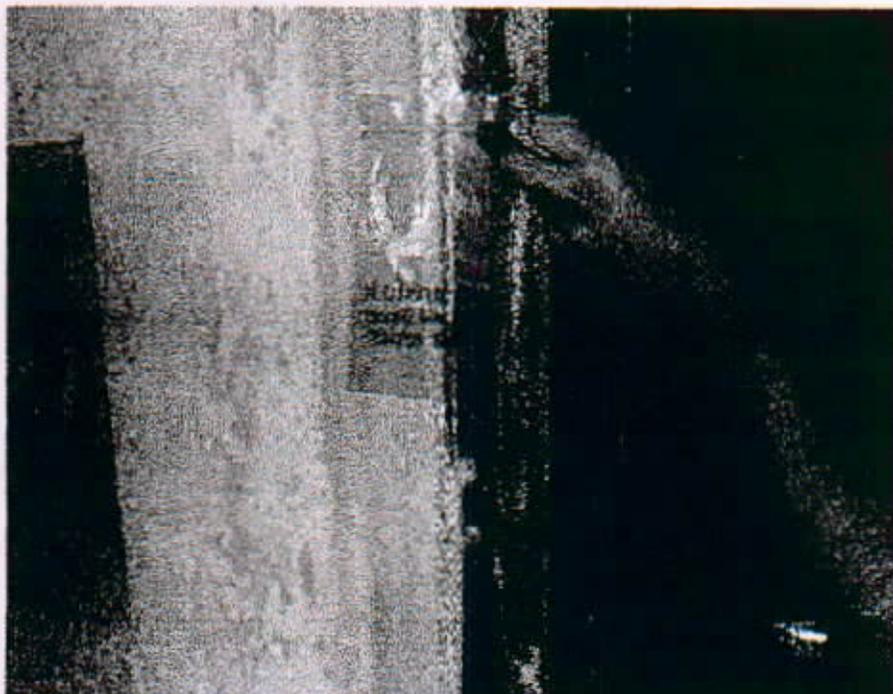


Photo No.8 Incinerator fabric door gasket.



Photo No.9 Pipe insulation gasket, 10-inch diameter.



Photo No.10 Pipe insulation, 5-inch diameter.

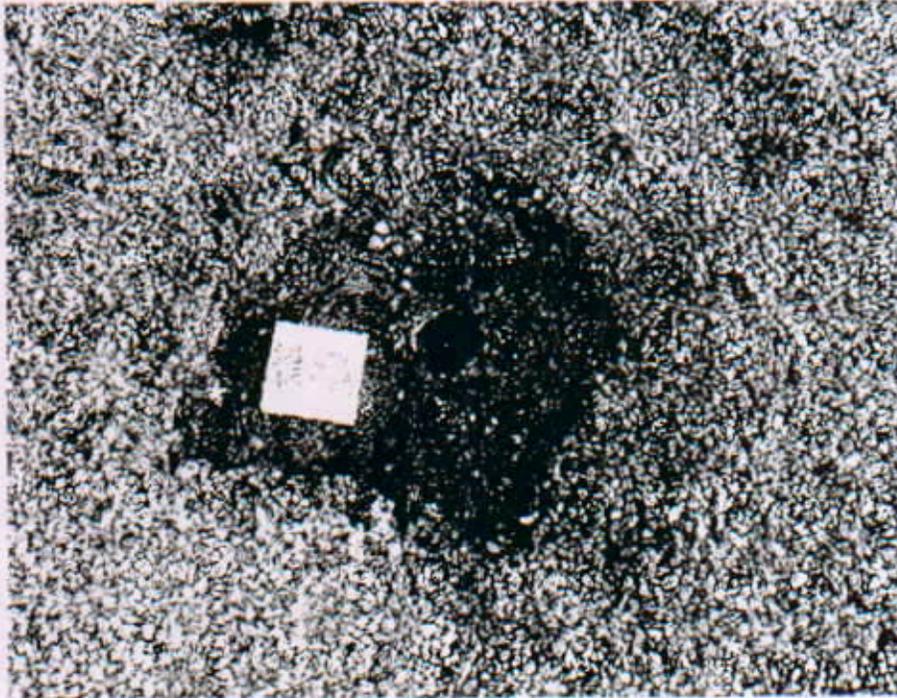


Photo No.11 Asbestos-containing built-up roof.



Photo No.12 Asbestos-containing base flashing.

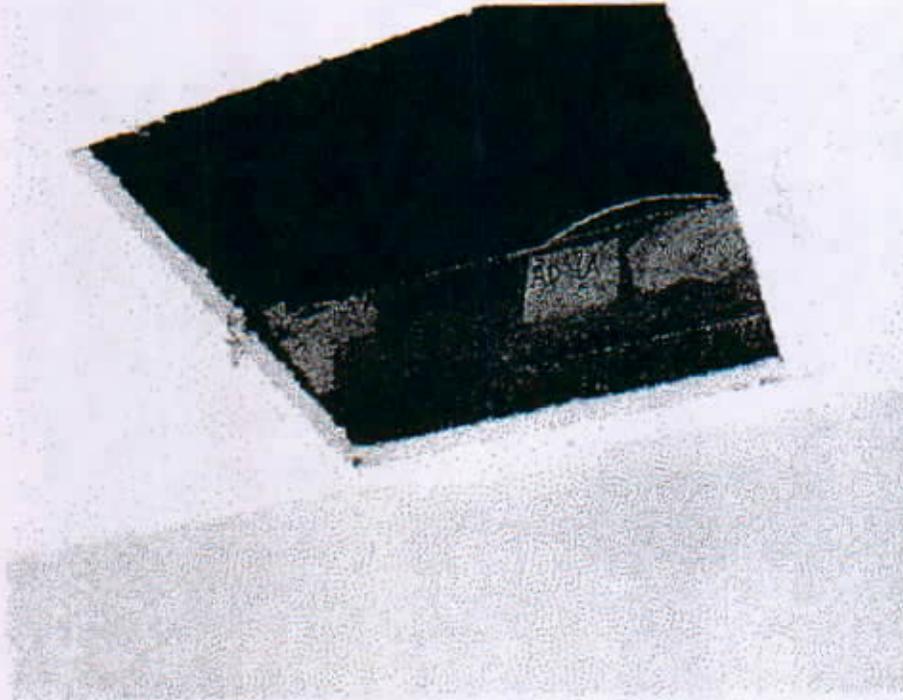


Photo No.13 Drywall/joint compound.

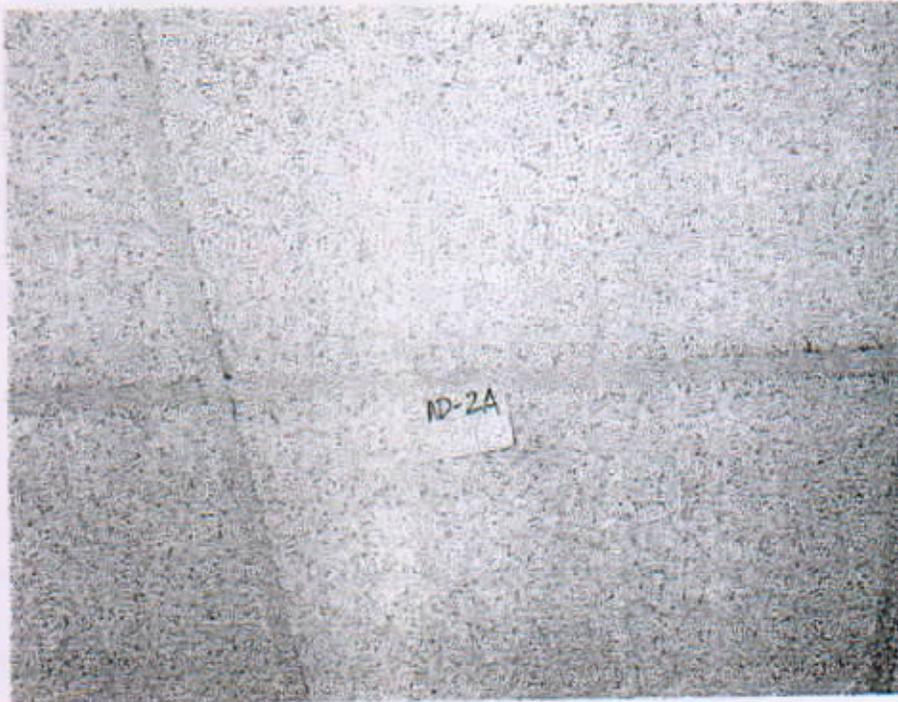


Photo No.14 2' x 2' Pinhole ceiling panel.

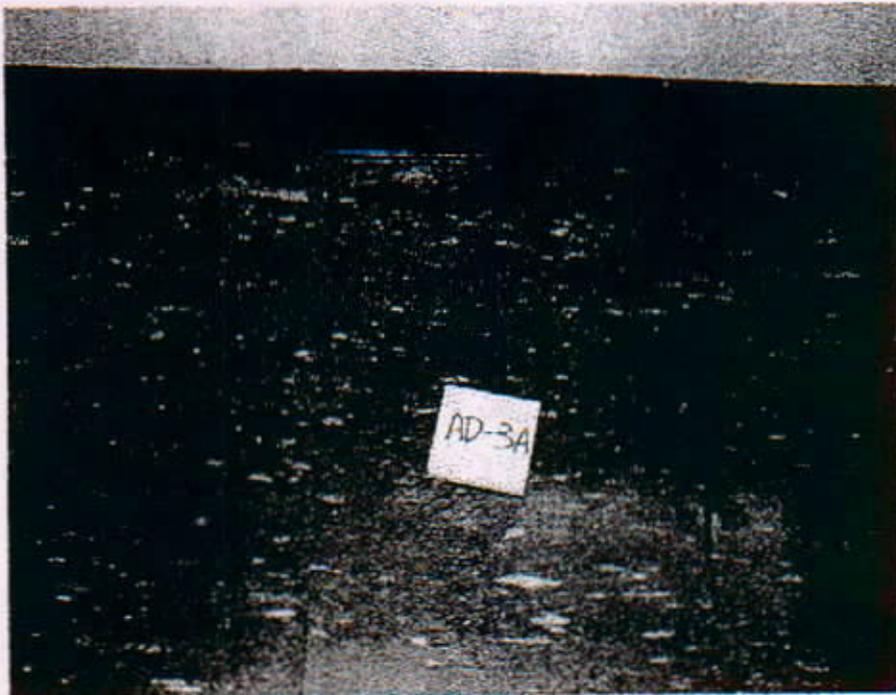


Photo No.15 Asbestos-containing 12" x 12" brown floor tile/mastic.



Photo No.16 Asbestos-containing 12" x 12" tan floor tile/mastic.

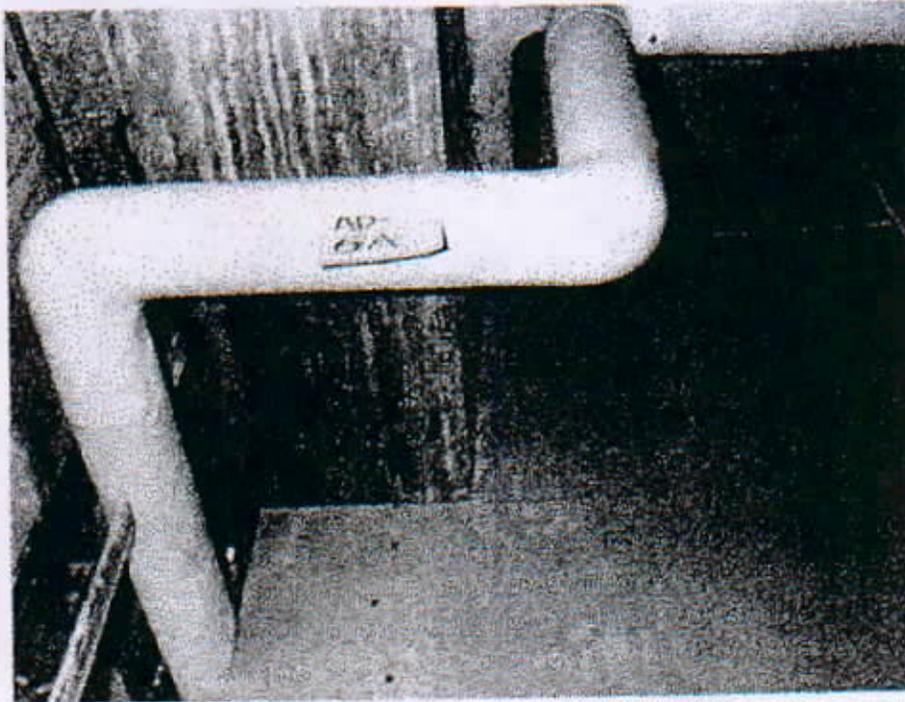


Photo No.17 3-inch and 5-inch diameter pipe insulation.

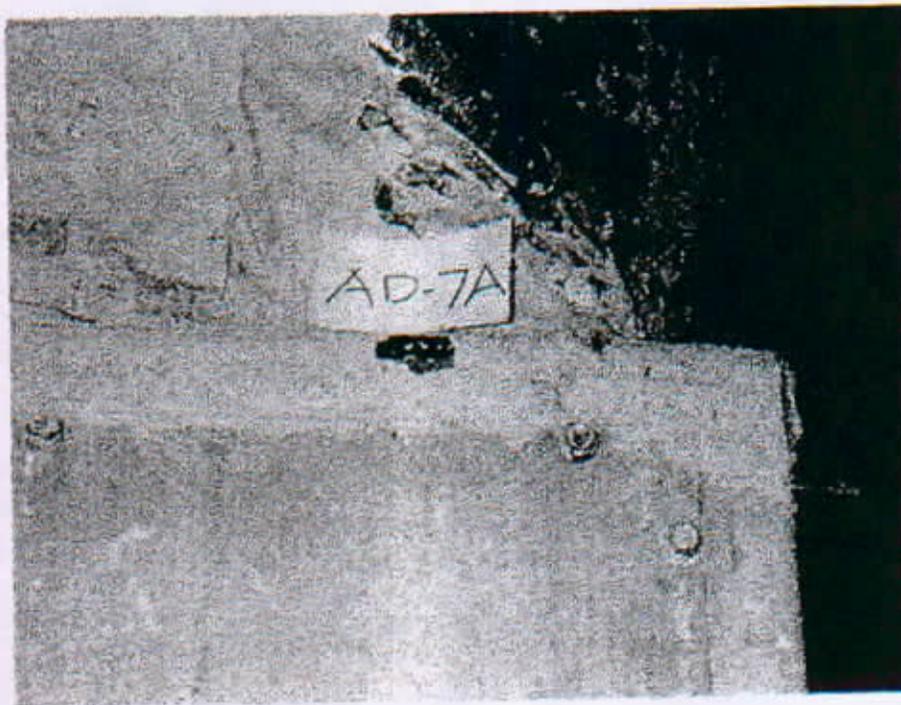


Photo No.18 White mastic on air handler.

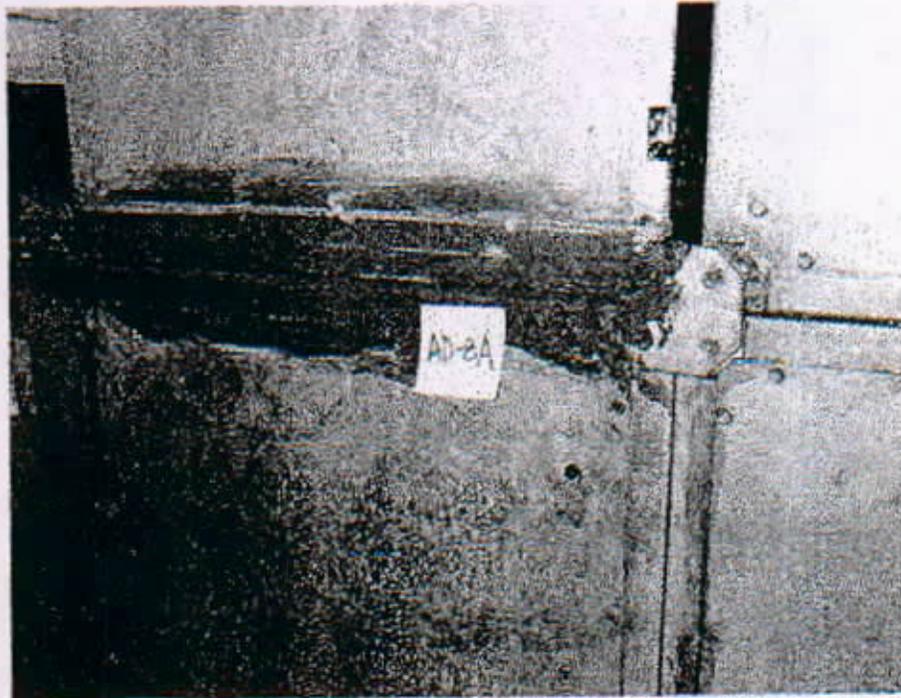


Photo No.19 Gray mastic on air handler.

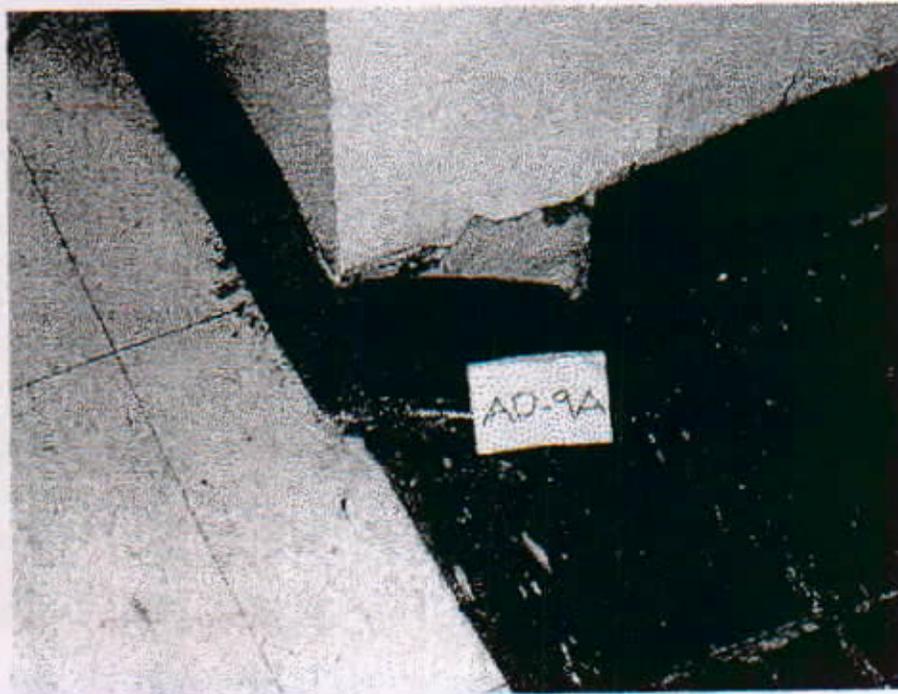


Photo No.20 Brown wall base trim/mastic.



Photo No.21 Asbestos-containing 12" x 12" white floor tile/mastic.

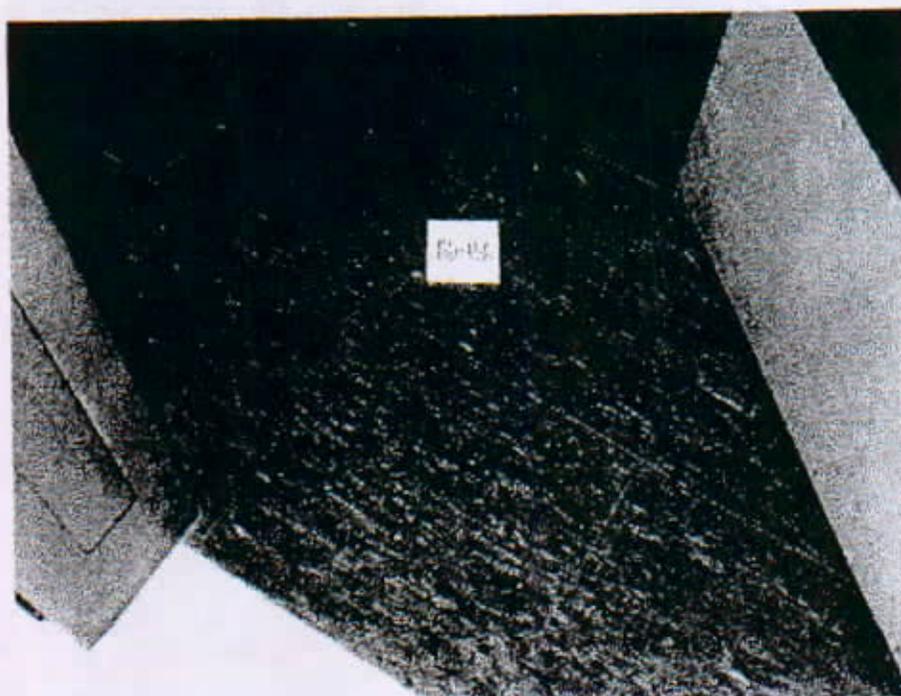


Photo No.22 Asbestos-containing 12" x 12" blue floor tile/mastic.

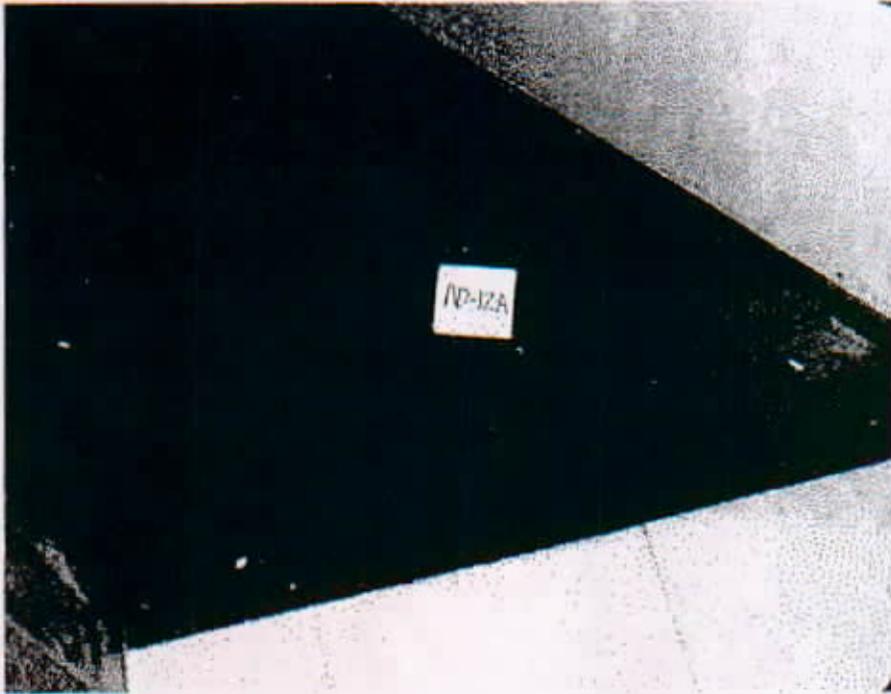


Photo No.23 Asbestos-containing 12" x 12" red floor tile/mastic.



Photo No.24 Asbestos-containing sheet flooring with mastic.

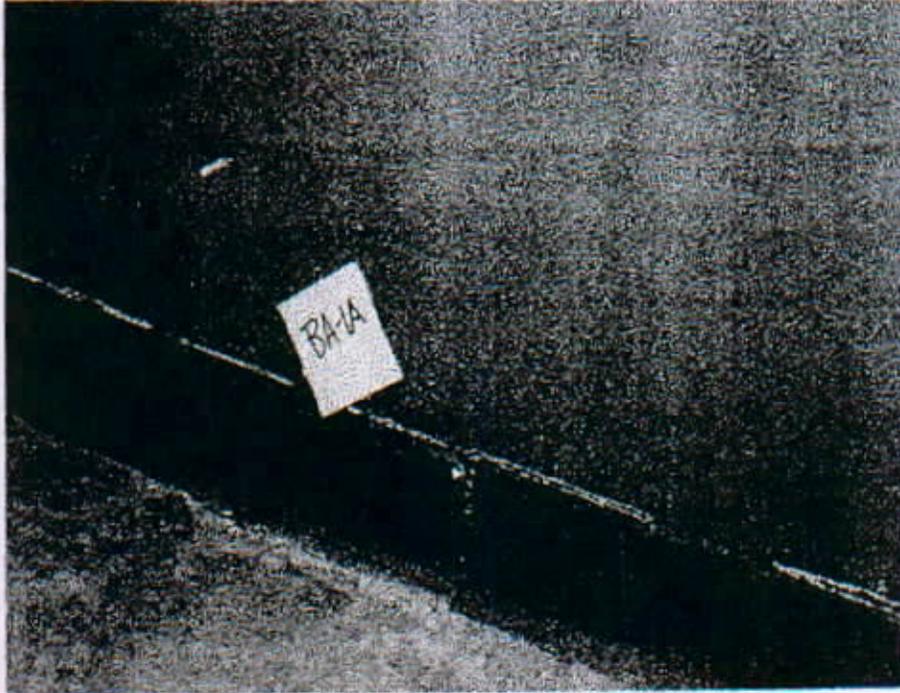


Photo No.25 Brown wall base trim.



Photo No.26 Four-inch diameter pipe insulation.



- Photo No.27 Muffler pipe elbow.

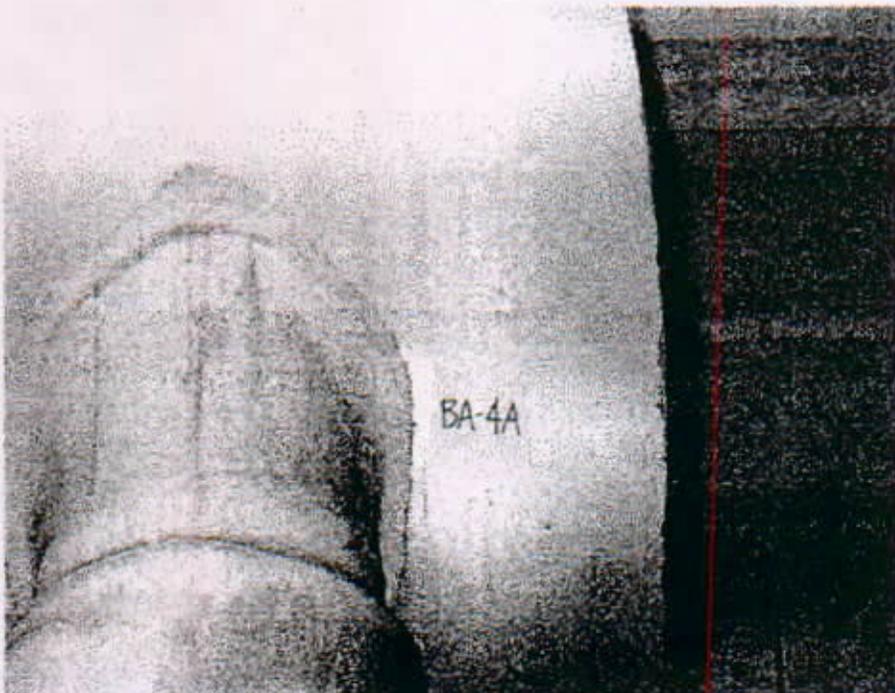


Photo No.28 Muffler tank insulation.

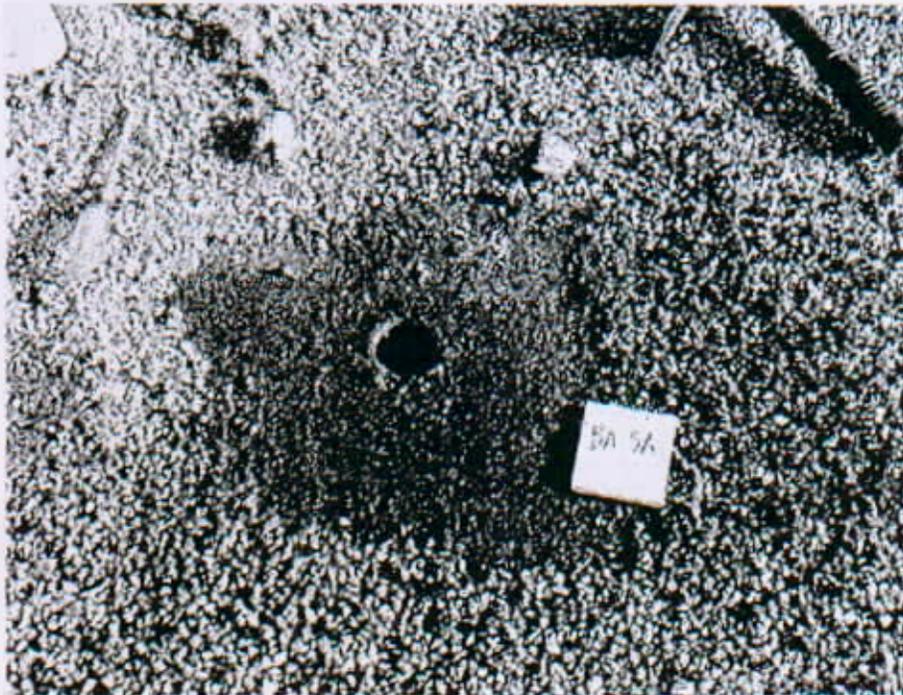


Photo No.29 Asbestos-containing built-up roof.

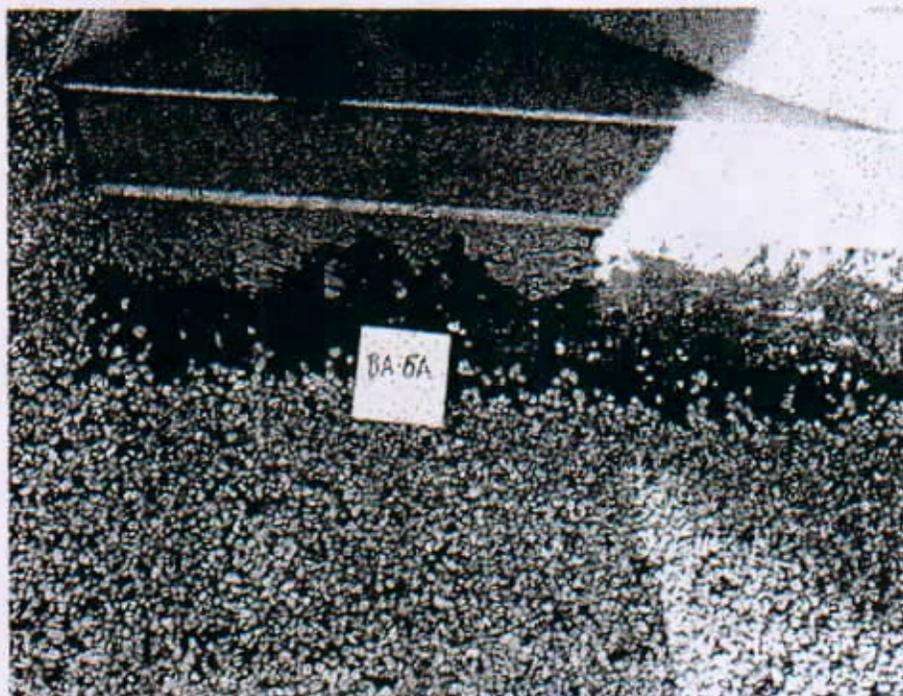


Photo No.30 Asbestos-containing base flashing.

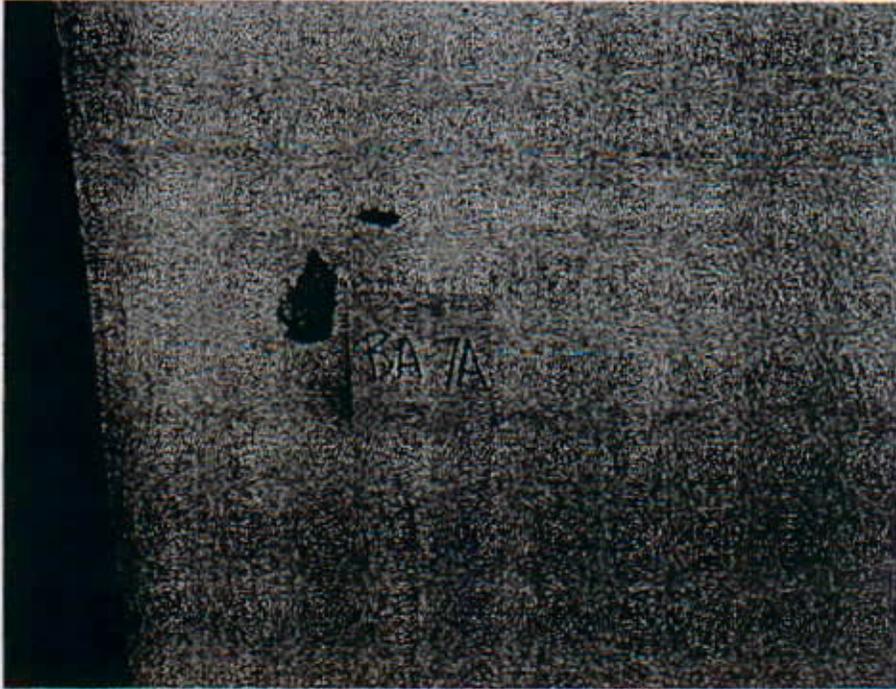


Photo No.31 Exterior wall textured surfacing.



Photo No.32 Exterior wall panel joint sealant.

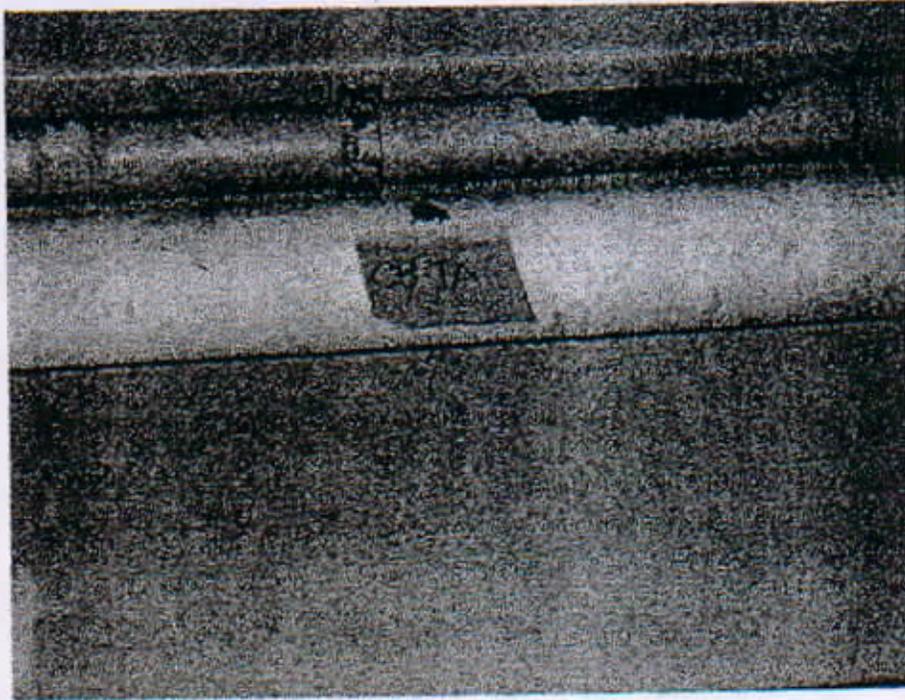


Photo No.33 Four-inch diameter pipe insulation.

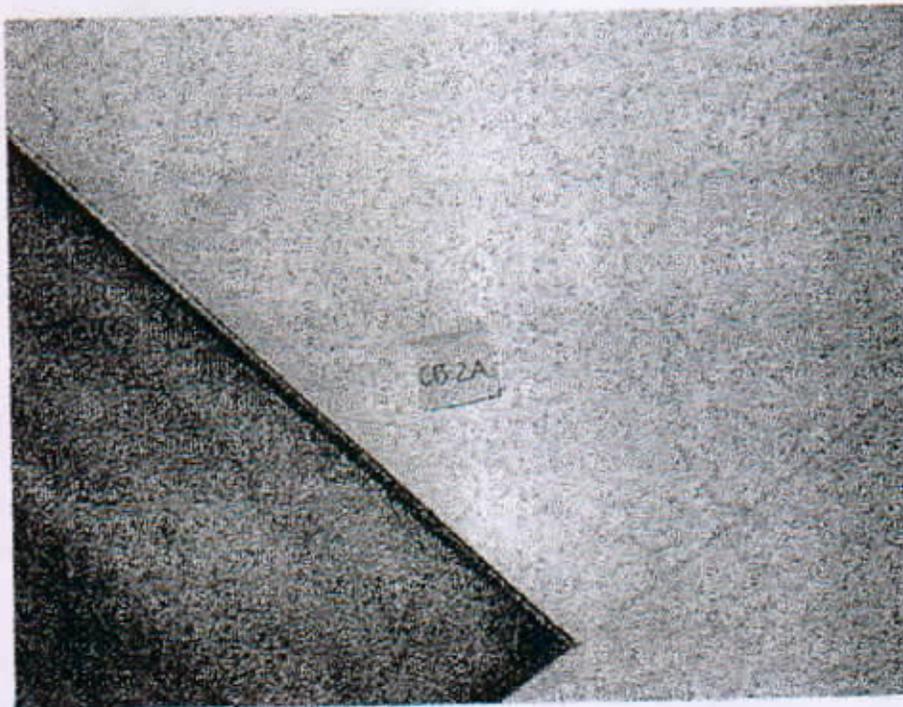


Photo No.34 2'x2' Ceiling panel.

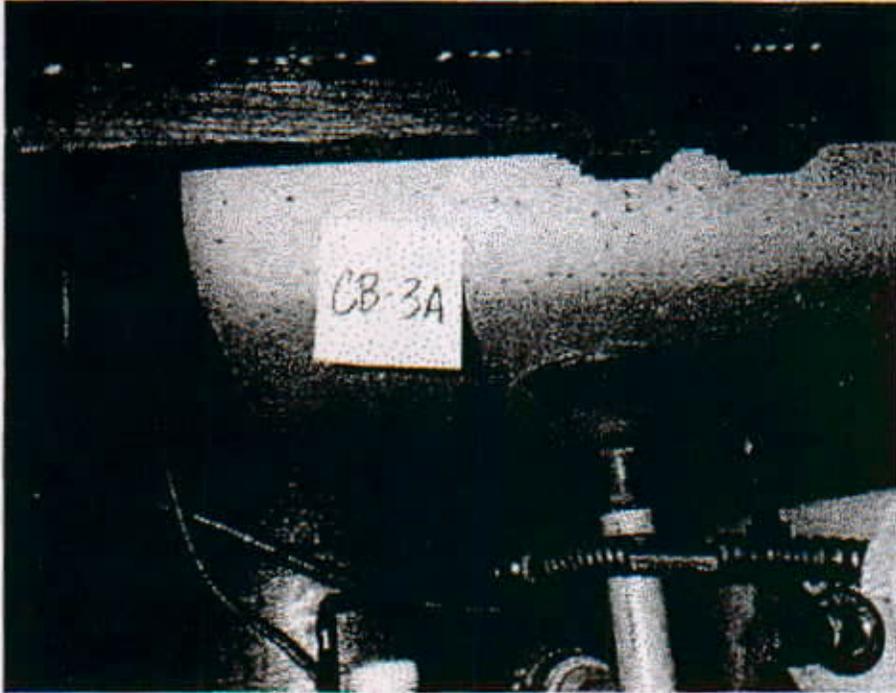


Photo No.35 Asbestos-containing sink undercoating.

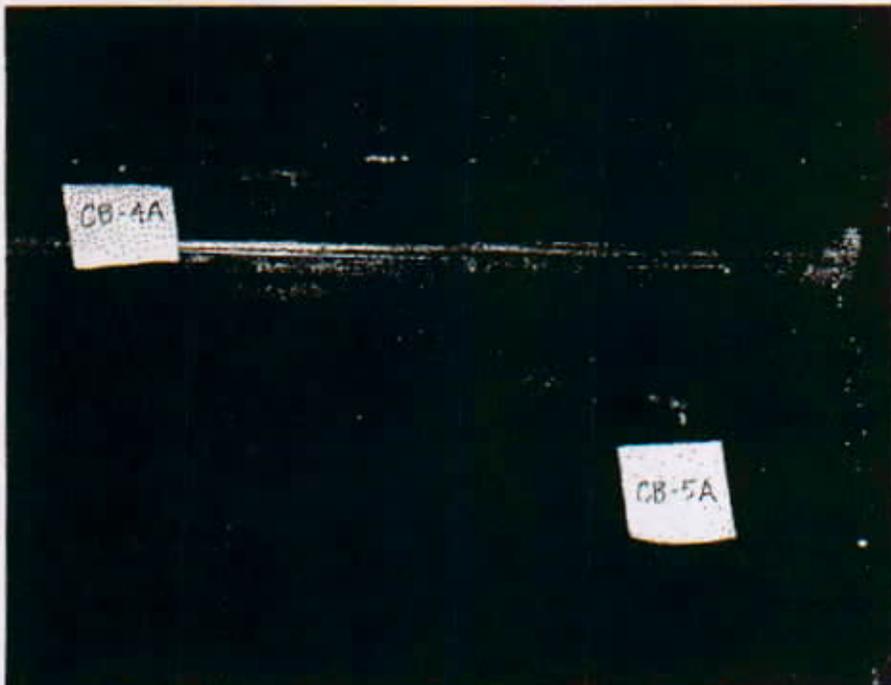


Photo No.36 Brown base wall trim.



Photo No.37 Asbestos-containing 12" x 12" Blue floor tile and mastic.

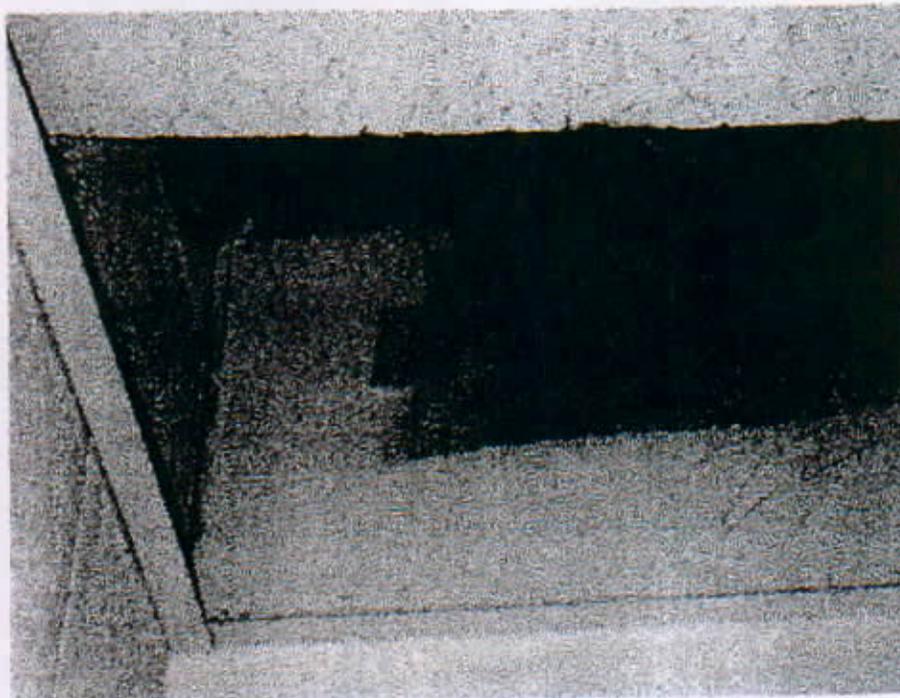


Photo No.38 Drywall/ joint compound.

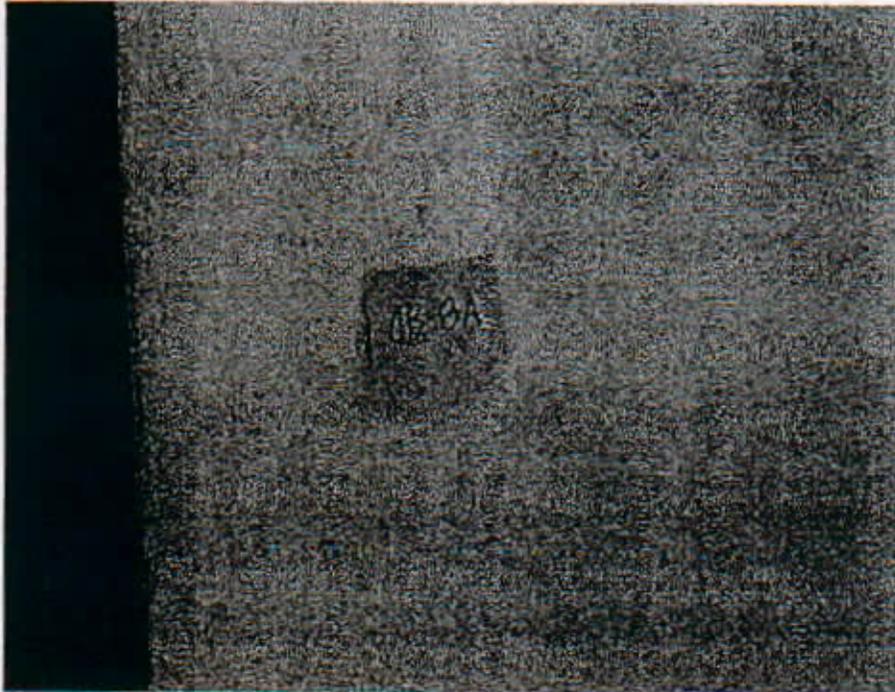


Photo No.39 Exterior stucco (textured surfacing).

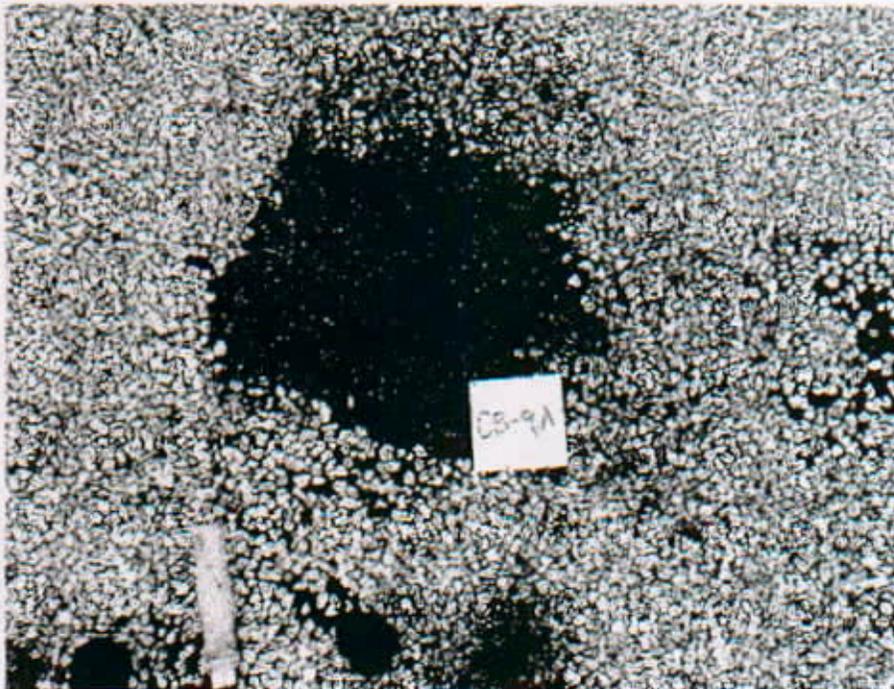


Photo No.40 Asbestos-containing built-up roof.

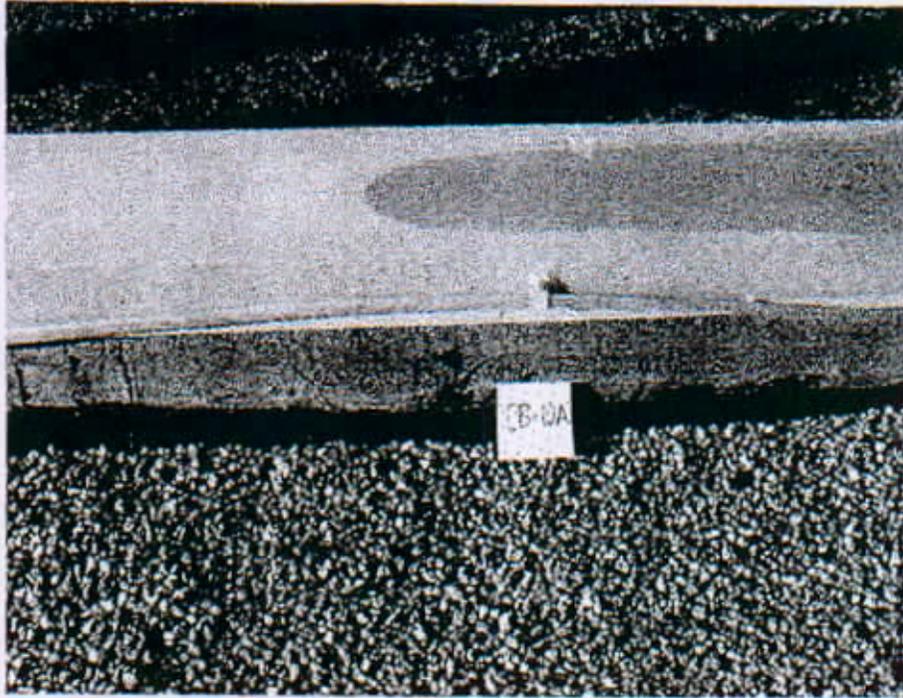


Photo No.41 Asbestos-containing base flashing.