

**ASBESTOS RENOVATION/DEMOLITION
SURVEY**

**CITY OF HOUSTON
1822 RANKIN ROAD
HOUSTON, TEXAS 77073**

Prepared for:

**CITY OF HOUSTON
900 BAGBY
2ND FLOOR
HOUSTON, TEXAS 77008-1189**

PSI PROJECT NUMBER 0523616

June 26, 2012

Prepared by:

**PROFESSIONAL SERVICE INDUSTRIES, INC.
3730 Dacoma Street
Houston, Texas 77092
(713) 224-2047**

EXECUTIVE SUMMARY

Professional Service Industries, Inc. (PSI) was retained by City of Houston representative, Mr. Gabriel Mussio, to conduct an asbestos renovation/demolition for suspect asbestos-containing building materials (ACBMs) that have the potential to be disturbed during renovation/demolition activities at 1822 Rankin Road, Houston, Texas. The asbestos renovation/demolition survey was performed on June 18, 2012, by Mr. Jack Marshall. Mr. Marshall is a Texas Department of State Health Services (TDSHS) licensed Asbestos Individual Consultant (License No. 105646).

Suspect asbestos bulk samples collected were analyzed by J3 Resources, Inc. (J3). J3 is a TDSHS licensed laboratory (License No. 300273). Asbestos in a quantity greater than one percent (1%) was not identified in any of the materials sampled.

A summary of the bulk asbestos samples collected can be viewed in Table 1.



TABLE OF CONTENTS

	<u>PAGE</u>
1.0 PROJECT EXECUTION.....	1
1.1 GENERAL INFORMATION	1
1.2 AUTHORIZATION.....	1
1.3 PURPOSE	1
2.0 ASBESTOS SURVEY	2
2.1 METHODOLOGY.....	2
2.2 SAMPLING AND ANALYTICAL PROCEDURES	2
2.3 QUANTIFICATION OF MATERIALS	3
2.4 LIMITATIONS TO SURVEY.....	3
3.0 FINDINGS	4
3.1 ASBESTOS SURVEY FINDINGS	4
4.0 ASBESTOS SURVEY RECOMMENDATIONS	5
5.0 WARRANTY.....	6

TABLES

- 1 Asbestos Sampling Results
- 2 Lead-Based Paint Results

APPENDICES

- A Laboratory Analytical Results and Chain of Custody Forms
- B Applicable Licenses and Certifications



1.0 PROJECT EXECUTION

1.1 General Information

Professional Service Industries, Inc. (PSI) was retained by City of Houston representative, Mr. Gabriel Mussio, to conduct an asbestos renovation/demolition survey for suspect asbestos-containing building materials (ACBMs) that have the potential to be disturbed during renovation activities at 1822 Rankin Road, Houston, Texas. The asbestos renovation/demolition survey was performed on June 18, 2012, by Mr. Jack Marshall. Mr. Marshall is a Texas Department of State Health Services (TDSHS) licensed Asbestos Individual Consultant (License No. 105646).

The facility located at 1822 Rankin Road, Houston, Texas is an unoccupied two-story building owned by the City of Houston.

1.2 Authorization

Authorization to perform this survey was provided by City of Houston in the form of a Professional Consulting Service Contract No. 4500151655-0 and PSI which included PSI Proposal No. 70031, dated May 21, 201. This survey was limited to the two-story building located at 1822 Rankin Road.

1.3 Purpose

The purpose of the asbestos demolition/renovation survey was to provide general information regarding the presence of ACBMs in the building that may have the potential to be disturbed during renovation activities.



2.0 ASBESTOS SURVEY

2.1 Methodology

The walk-through, material identification, and sampling procedures were conducted in accordance with the Texas Asbestos Health Protection Rules (TAHPR) and the Occupational Safety and Health Administration (OSHA) regulations, 29CFR 1926.1101 to determine the presence of suspect ACBMs.

An initial walk-through of the buildings was conducted to determine the presence of suspect materials accessible and/or exposed to the Texas DSHS licensed Asbestos Inspector. Suspect materials similar in general appearance were grouped into homogeneous sampling areas. Sampling locations were chosen to be representative of these homogeneous materials. A homogeneous area is an area of TSI, surfacing material, or miscellaneous material uniform in color and texture. Suspect ACBMs in a homogeneous area must be treated as ACBMs unless samples are taken and the sample analysis indicates the material to contain $\leq 1\%$ asbestos.

The inspector collected samples of selected materials identified as suspect ACBMs. Sampling was limited to floor tile with glue, baseboard with glue, suspended ceiling tile, black lab top, white sink mastic, grey duct mastic, drywall panels and panel system, and window glazing. Representative samples were collected by either coring or cutting the suspect material. Approximate quantities for each homogeneous material were estimated and the condition of each material was evaluated.

2.2 Sampling and Analytical Procedures

While an effort was made to collect samples randomly, samples were taken preferentially from previously damaged areas or areas which were the least visible to minimize noticeable damage to the material. The samples were marked with an identification number and documented on the Field Bulk Worksheet/Chain of Custody Forms.

Samples were delivered to J3 Resources, Inc. laboratory located in Houston Texas. J3 Resources, Inc. laboratory is a State of Texas licensed laboratory (License No. 300273) and is accredited with the National Voluntary Laboratory Accreditation Program (NVLAP) (Accreditation No. 200525-0). The samples were examined through visual observation to determine estimations of the relative amount of each constituent. This is performed by determining the volume of each constituent in proportion to the total volume of the sample collected with the aid of a stereoscope. The samples were then mounted on slides for microscopic identification and analyzed for asbestos (chrysotile, amosite, crocidolite, anthophyllite, actinolite, and tremolite), fibrous non-asbestos constituents (mineral wool, paper, etc.), and non-fibrous constituents. The analysis



consists of the determination of the optical properties such as morphology, color, refractive indices and other properties. The analysis for asbestos fibers is outlined in 40 CFR Part 763.1, Appendix A, Subpart F, Polarized Light Microscopy (PLM).

A material is considered by the EPA and the State of Texas to be asbestos-containing if at least one sample collected from the homogeneous area has asbestos present in a quantity greater than one percent (1%). The Office of Safety and Health Administration (OSHA) has indicated that there is no safe level of asbestos. Analytical results indicating asbestos in concentrations from trace to 1% will require worker(s) protection during removal. A list of the samples collected, sample location/description and analytical results are located in Tables 1.

The EPA method allows a sample in which asbestos was visually detected, but which is visually estimated to have 10% or less asbestos, to be quantified using a Point Count procedure.

The EPA point counting procedure is as follows: an ocular reticule (cross hair or point array) is used to visually superimpose a point or points on the microscope field of view. A total of 400 points superimposed on either asbestos fibers or non-asbestos matrix material must be counted over at least eight different preparations of representative subsamples. If an asbestos fiber and matrix particle overlap so that a point is superimposed on their visual intersection, a point is scored for both categories. Point counting provides a quantification of the area percent asbestos.

Laboratory analytical results and chain of custody forms are located in Appendix B.

2.3 Quantification of Materials

Approximate quantities for each sampled homogeneous material were estimated and the condition of the materials was evaluated. Estimated quantities were achieved by taking approximate measurements in the field.

2.4 Limitations to Survey

The two-story building, located at the 1822 Rankin Road in Houston, Texas, was inspected for suspect ACBMs. The survey was limited to accessible and/or exposed materials. The roof area was included in the survey. No other buildings on the property were sampled.

3.0 ASBESTOS FINDINGS

3.1 *Asbestos Survey Findings*

A total of forty-three (43) suspect ACBM bulk samples were collected during the asbestos demolition/renovation survey. Asbestos in a quantity greater than one percent (1%) was not identified in any material sampled.

A summary of the bulk samples collected can be viewed in Table 1.



4.0 ASBESTOS SURVEY RECOMMENDATIONS

PSI presents the following recommendations for your consideration based on the analytical results of the survey:

- The removal and disposal of identified ACBMs or assumed ACBMs before renovation of a structure should be conducted in accordance with applicable federal, state, and local regulations. Air monitoring also provides critical documentation for the building owner and should be provided by accredited asbestos personnel.
- Prior to removal of certain identified or assumed ACBM or the demolition of a building, a notification for the abatement and demolition/renovation activities must be filed with the Texas DSHS as outlined in the NESHAP asbestos standard, 40 CFR 61, Subpart M and the TAHPA, Part 295.36 and 295.61
- If any additional materials are found which have not been tested, or any suspect materials are found in any of the areas that were not in the scope of work at the time of the survey, they should be assumed to be asbestos-containing until laboratory testing proves otherwise. The demolition/renovation contractor should provide oversight to ensure that additionally found suspect materials are properly tested. The contractor should keep a copy of the asbestos survey onsite.



5.0 Warranty

The field and laboratory results reported herein are considered sufficient in detail and scope to determine the presence of accessible and/or exposed suspect materials for a demolition/renovation project at 1822 Rankin in Houston, Texas. PSI warrants the findings contained herein have been prepared in general accordance with accepted professional practices at the time of this preparation, as applied by similar professionals in the community.

Changes in the state of the art or in applicable regulations cannot be anticipated and have not been addressed in this report.

The survey and analytical methods have been used to provide the client with information regarding the presence of accessible and/or exposed floor tile, floor tile mastic, covebase, covebase mastic, suspended ceiling tile, black roof sealant, white roof sealant, thermal system insulation, carpet, carpet adhesive, drywall panels, and drywall panel system,. Test results are valid only for the material tested. There is a distinct possibility that conditions may exist which could not be identified within the scope of the study or which were not apparent during the site visit. This inspection covered only those areas exposed and/or physically accessible to the inspector as it relates to the two-story building located at the 1822 Rankin Road in Houston, Texas.

As directed by the client, PSI did not provide any service to investigate or detect the presence of moisture, mold or other biological contaminants in or around any structure, or any service that was designed or intended to prevent or lower the risk of the occurrence of the amplification of the same. Client acknowledges that mold is ubiquitous to the environment with mold amplification occurring when building materials are impacted by moisture. Client further acknowledges that site conditions are outside of PSI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture. As such, PSI cannot and shall not be held responsible for the occurrence or recurrence of mold amplification.



TABLES

Professional Service Industries, Inc.

Table 1 - Asbestos Sampling Results – 1822 Rankin Road, Houston, Texas 77073

HA* Number	Material Description	Sample Location	Sample Number	Asbestos Content**	Condition	Friable (Y/N)	Approx. Quantity
001	Black Roof Sealant Mastic	Roof	615-001	ND	Damage	N	300 Square Feet
		Roof	615-002	ND			
		Roof	615-003	ND			
002	White Roof Sealant Mastic	Roof	615-004	ND	No Damage	N	3,500 Square Feet
		Roof	615-005	ND			
		Roof	615-006	ND			
003	White 12" x 12" Marbled Floor Tile and Black Mastic	Stairs	615-007	ND	No Damage	N	1,500 Square Feet
		2 nd Floor office	615-008	ND			
		2 nd Floor office	615-009	ND			
004	Gray Covebase and Mastic	2 nd Floor office	615-010	ND	Damage	Y	250 Linear Feet
		2 nd Floor men's restroom 2 nd Floor office	615-011 615-012	ND ND			
005	2' x 4' Suspended Ceiling Tile	2 nd Floor office	615-013	ND	Damage	N	8,000 Squarer Feet
		1 st Floor Lab Office	615-014	ND			
		1 st Floor Room	615-015	ND			
006	White 12" x 12" Marbled Floor Tile and Black Mastic	1 st Floor by Lab	615-016	ND	Damage	N	2,000 Squarer Feet
		1 st Floor Hall by Rest Room	615-017	ND			
		1 st Floor Break Room	615-018	ND			
007	Black Covebase and Mastic	1 st Floor Break Room	615-019	ND	Damage	Y	300 Linear Feet
		1 st Floor Hall by Rest Room 1 st Floor Lab	615-020 615-021	ND ND			
008	Carpet and Carpet Adhesive	1 st Floor Lab Office	615-022	ND	No Damage	N	1,000 Squarer Feet
		1 st Floor Office	615-023	ND			
		1 st Floor Closet	615-024	ND			

* HA = Homogeneous Area
NS = Non-Suspect
YEL = Yellow
BLK = Black

** CB = Cove Base
JC = Joint Compound
FT = Floor Tile
TX = Texture

MAS = Mastic
ND = None Detected
NA = Not Analyzed
ADH = Adhesive

PC = Point Count
DW = Drywall
GB = Gypsum Board
Trace = <1%

Professional Service Industries, Inc.

Table 1 - Asbestos Sampling Results – 1822 Rankin Road, Houston, Texas 77073

HA* Number	Material Description	Sample Location	Sample Number	Asbestos Content**	Condition	Friable (Y/N)	Approx. Quantity
009	Drywall Panels and Panel System	2 nd Floor Store Room	615-025	ND	No Damage	N	6,000 Square Feet
		2 nd Floor Women's Rest room	615-026	ND			
		2 nd Floor office	615-027	ND			
		1 st Floor Store room	615-028	ND			
		1 st Floor by Lab	615-029	ND			
010	Fiberglass TSI with White Mastic	1 st Floor Custodian Office	615-030	ND	No Damage	N	200 Linear Feet
		1 st Floor Shop	615-031	ND			
011	Sink Under Coating	2 nd Floor Store Room	615-032	ND	No Damage	N	200 Linear Feet
		1 st Floor by Lab	615-033	ND			
		1 st Floor Men's rest room	615-034	ND			
012	White Wallpaper and Wallpaper adhesive	1 st Floor Break Room	615-035	ND	No Damage	Y	120 Square Feet
		1 st Floor Lab	615-036	ND			
		1 st Floor Lab	615-037	ND			
013	Brown Wallpaper and Wallpaper adhesive	1 st Floor Men's rest room	615-038	ND	No Damage	N	800 Square Feet
		1 st Floor Men's rest room	615-039	ND			
		1 st Floor Woen's rest room	615-040	ND			
013	Brown Wallpaper and Wallpaper adhesive	1 st Floor Break Room	615-041	ND	Damage	N	600 Square Feet
		1 st Floor Break Room	615-042	ND			
		1 st Floor Class Room	615-043	ND			

* HA = Homogeneous Area
 NS = Non-Suspect
 YEL = Yellow
 BLK = Black

** CB = Cove Base
 JC = Joint Compound
 FT = Floor Tile
 TX = Texture

MAS = Mastic
 ND = None Detected
 NA = Not Analyzed
 ADH = Adhesive

PC = Point Count
 DW = Drywall
 GB = Gypsum Board
 Trace = <1%

APPENDIX A

ANALYTICAL RESULTS AND CHAIN OF CUSTODY FORMS

J3 Resources, Inc.

6110 W. 34th Street, Houston, Texas 77092

Phone: (713) 290-0221 - Fax: (713) 290-0248

J3Resources.com



Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)

EPA 600/M4-82-020; 600/R-93/116

Jack Marshall
PSI
3730 Dacoma Street
Houston TX 77092

J3 Order #: JH1247083
Project #: 0523615
Date Received: 19-Jun-2012
Date Analyzed: 20-Jun-2012
Date Reported: 20-Jun-2012

1822 Rankin Road

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-001	Roof Mastic, Black, Homogeneous	None Detected	Cellulose Fiber 2% Other Non-Fibrous Material 98%
615-002	Roof Mastic, Black, Homogeneous	None Detected	Cellulose Fiber 2% Other Non-Fibrous Material 98%
615-003	Roof Mastic, Black, Homogeneous	None Detected	Cellulose Fiber 2% Other Non-Fibrous Material 98%
615-004	Roof Sealant, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-005	Roof Sealant, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-006	Roof Sealant, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-007	LAYER 1 Floor Tile, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-008	LAYER 1 Floor Tile, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-009	LAYER 1 Floor Tile, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%

Tracy Morgan Analyst

Lee W. Poye Lab Director

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Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-010	LAYER 1 Cove Base, Gray, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-011	LAYER 1 Cove Base, Gray, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-012	LAYER 1 Cove Base, Gray, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-013	LAYER 1 Ceiling Tile, White/ Gray, Homogeneous	None Detected	Cellulose Fiber 45% Fibrous Glass 10% Other Non-Fibrous Material 45%
	LAYER 2 Paper Mastic Wrap, Brown/ Black, Homogeneous	None Detected	Cellulose Fiber 85% Other Non-Fibrous Material 15%
	LAYER 3 Insulation, Yellow, Homogeneous	None Detected	Fibrous Glass 98% Other Non-Fibrous Material 2%

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Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-014	LAYER 1 Ceiling Tile, White/ Gray, Homogeneous	None Detected	Cellulose Fiber 45% Fibrous Glass 10% Other Non-Fibrous Material 45%
	LAYER 2 Paper Mastic Wrap, Brown/ Black, Homogeneous	None Detected	Cellulose Fiber 85% Other Non-Fibrous Material 15%
	LAYER 3 Insulation, Yellow, Homogeneous	None Detected	Fibrous Glass 98% Other Non-Fibrous Material 2%
615-015	LAYER 1 Ceiling Tile, White/ Gray, Homogeneous	None Detected	Cellulose Fiber 45% Fibrous Glass 10% Other Non-Fibrous Material 45%
	LAYER 2 Paper Mastic Wrap, Brown/ Black, Homogeneous	None Detected	Cellulose Fiber 85% Other Non-Fibrous Material 15%
	LAYER 3 Insulation, Yellow, Homogeneous	None Detected	Fibrous Glass 98% Other Non-Fibrous Material 2%
615-016	LAYER 1 Floor Tile, Tan, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Black, Homogeneous	None Detected	Synthetic Fiber 3% Other Non-Fibrous Material 97%
615-017	LAYER 1 Floor Tile, Tan, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Black, Homogeneous	None Detected	Synthetic Fiber 3% Other Non-Fibrous Material 97%

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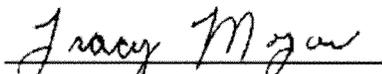
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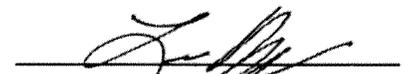
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1822 Rankin Road

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-018	LAYER 1 Floor Tile, Tan, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Mastic, Black, Homogeneous	None Detected	Synthetic Fiber 3% Other Non-Fibrous Material 97%
615-019	LAYER 1 Cove Base, Black, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Cove Base Mastic, Tan, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-020	LAYER 1 Cove Base, Black, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Cove Base Mastic, Tan, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-021	LAYER 1 Cove Base, Black, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Cove Base Mastic, Tan, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-022	LAYER 1 Carpet, Gray/ Tan, Homogeneous	None Detected	Synthetic Fiber 65% Other Non-Fibrous Material 35%
	LAYER 2 Carpet Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-023	LAYER 1 Carpet, Gray/ Tan, Homogeneous	None Detected	Synthetic Fiber 65% Other Non-Fibrous Material 35%
	LAYER 2 Carpet Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%


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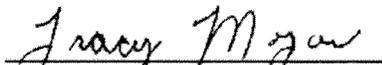
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Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-024	LAYER 1 Carpet, Gray/ Tan, Homogeneous	None Detected	Synthetic Fiber 65% Other Non-Fibrous Material 35%
	LAYER 2 Carpet Mastic, Yellow, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-025	LAYER 1 Texture, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Tape, Beige, Homogeneous	None Detected	Cellulose Fiber 100%
	LAYER 3 Joint Compound, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 4 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-026	LAYER 1 painted Texture, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Tape, Beige, Homogeneous	None Detected	Cellulose Fiber 100%
	LAYER 3 Joint Compound, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 4 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%


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Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-027	LAYER 1 Painted Texture, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Tape, Beige, Homogeneous	None Detected	Cellulose Fiber 100%
	LAYER 3 Joint Compound, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 4 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-028	LAYER 1 Painted Texture, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Tape, Beige, Homogeneous	None Detected	Cellulose Fiber 100%
	LAYER 3 Joint Compound, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 4 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-029	LAYER 1 Painted Texture, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Tape, Beige, Homogeneous	None Detected	Cellulose Fiber 100%
	LAYER 3 Joint Compound, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 4 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%

Tracy Morgan Analyst

Lee W. Poye Lab Director

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J3 Resources, Inc.

6110 W. 34th Street, Houston, Texas 77092

Phone: (713) 290-0221 - Fax: (713) 290-0248

J3Resources.com



Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)

EPA 600/M4-82-020; 600/R-93/116

Jack Marshall
PSI
3730 Dacoma Street
Houston TX 77092

J3 Order #: JH1247083
Project #: 0523615
Date Received: 19-Jun-2012
Date Analyzed: 20-Jun-2012
Date Reported: 20-Jun-2012

1822 Rankin Road

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-030	LAYER 1 Painted Texture, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Tape, Beige, Homogeneous	None Detected	Cellulose Fiber 100%
	LAYER 3 Joint Compound, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 4 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-031	LAYER 1 Painted Texture, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 2 Tape, Beige, Homogeneous	None Detected	Cellulose Fiber 100%
	LAYER 3 Joint Compound, White, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 4 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-032	LAYER 1 Mastic Wrap, White, Homogeneous	None Detected	Fibrous Glass 10% Other Non-Fibrous Material 90%
	LAYER 2 Insulation, Yellow, Homogeneous	None Detected	Fibrous Glass 98% Other Non-Fibrous Material 2%
615-033	LAYER 1 Mastic Wrap, White/ Silver, Homogeneous	None Detected	Fibrous Glass 10% Cellulose Fiber 30% Other Non-Fibrous Material 60%
	LAYER 2 Insulation, Yellow, Homogeneous	None Detected	Fibrous Glass 98% Other Non-Fibrous Material 2%

Tracy Morgan Analyst

Lee W. Poye Lab Director

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Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)

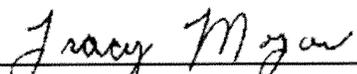
EPA 600/M4-82-020; 600/R-93/116

Jack Marshall
PSI
3730 Dacoma Street
Houston TX 77092

J3 Order #: JH1247083
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Date Received: 19-Jun-2012
Date Analyzed: 20-Jun-2012
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1822 Rankin Road

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-034	LAYER 1 Mastic Wrap, White/ Silver, Homogeneous	None Detected	Fibrous Glass 10% Cellulose Fiber 30% Other Non-Fibrous Material 60%
	LAYER 2 Insulation, Yellow, Homogeneous	None Detected	Fibrous Glass 98% Other Non-Fibrous Material 2%
615-035	Sink Undercoat, Black, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-036	Sink Undercoat, Black, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-037	Sink Undercoat, Black, Homogeneous	None Detected	Other Non-Fibrous Material 100%
615-038	LAYER 1 Wall Cover, White, Homogeneous	None Detected	Synthetic Fiber 15% Other Non-Fibrous Material 85%
	LAYER 2 Mastic, Beige, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 3 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-039	LAYER 1 Wall Cover, White, Homogeneous	None Detected	Synthetic Fiber 15% Other Non-Fibrous Material 85%
	LAYER 2 Mastic, Beige, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 3 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%


Tracy Morgan Analyst


Lee W. Poye Lab Director

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Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)

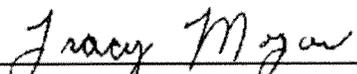
EPA 600/M4-82-020; 600/R-93/116

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3730 Dacoma Street
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Date Received: 19-Jun-2012
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1822 Rankin Road

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-040	LAYER 1 Wall Cover, White, Homogeneous	None Detected	Synthetic Fiber 15% Other Non-Fibrous Material 85%
	LAYER 2 Mastic, Beige, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 3 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-041	LAYER 1 Wall Cover, Brown, Homogeneous	None Detected	Synthetic Fiber 15% Other Non-Fibrous Material 85%
	LAYER 2 Mastic, Beige, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 3 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%
615-042	LAYER 1 Wall Cover, Brown, Homogeneous	None Detected	Synthetic Fiber 15% Other Non-Fibrous Material 85%
	LAYER 2 Mastic, Beige, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 3 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%


Tracy Morgan Analyst


Lee W. Poye Lab Director

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Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)

EPA 600/M4-82-020; 600/R-93/116

Jack Marshall
 PSI
 3730 Dacoma Street
 Houston TX 77092

J3 Order #: JH1247083
 Project #: 0523615
 Date Received: 19-Jun-2012
 Date Analyzed: 20-Jun-2012
 Date Reported: 20-Jun-2012

1822 Rankin Road

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
615-043	LAYER 1 Wall Cover, Brown, Homogeneous	None Detected	Synthetic Fiber 15% Other Non-Fibrous Material 85%
	LAYER 2 Mastic, Beige, Homogeneous	None Detected	Other Non-Fibrous Material 100%
	LAYER 3 Wallboard, Brown/ White, Homogeneous	None Detected	Cellulose Fiber 10% Other Non-Fibrous Material 90%

Tracy Morgan Analyst

Lee W. Poye Lab Director

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ASBESTOS BULK SAMPLE WORKSHEET / CHAIN OF CUSTODY

DATE: 6-18-02
 PROJECT: Asbestos Survey
 WORK AREA: 2nd Fl. R. Can. 10 Roof
 RELINQUISHED BY: Paul Smith
 PROJECT NO.: 0627615
 PSI HYGIENIST: Jack Mumphel
 RELINQUISHED TO: [Signature] 06/19

TSI - THERMAL SYSTEM INSULATION S - SURFACING MISC - MISCELLANEOUS	NF - NON FRIABLE F - FRIABLE A - ASSUMED ASBESTOS CONTAINING	SF - SQUARE FEET LF - LINEAR FEET	CONDITION ND - NO DAMAGE D - DAMAGED SD - SIGNIFICANTLY DAMAGED	POTENTIAL FOR DISTURBANCE AND OVERALL RATING H - HIGH M - MODERATE L - LOW
--	--	--------------------------------------	--	--

24-HOURS 3-DAYS POSITIVE STOP PER HOMOGENEOUS AREA

TURN AROUND TIME: RUSH

HOMO NO.	TSI MISC S	SAMPLE NO.	MATERIAL DESCRIPTION HOMOGENEOUS AREA DESCRIPTION	SAMPLE LOCATION	FINE	QUANTITY	CONDITION
004	MISC	615-010	Gray Cove Beel & Mastic	Office	NF	200LF	D
		615-011	2nd Floor office areas	Mens Room			
		615-012		Office			
005	MISC	615-013	2x4 Suspended ceiling tile	Office	F		D
		615-014	2nd Floor office areas	Lab Office			
		615-015	1st Floor	Reev			
006	MISC	615-016	12x12 white mastic	Hall Dy way	NF		D
		615-017	Floor tile & mastic	Hall Dy R/L			
		615-018	Various areas on the 1st Floor.	Hall Dy Couch Rd			

ASBESTOS BULK SAMPLE WORKSHEET / CHAIN OF CUSTODY

PROJECT NO.: 0523615
 PSI HYGIENIST: Jack Mungler
 RELINQUISHED TO: [Signature] 06/19

DATE: 6-15-12
 PROJECT: Asbestos Survey
 WORK AREA: 1822A Rankin Road
 RELINQUISHED BY: [Signature]

TSI - THERMAL SYSTEM INSULATION S - SURFACING MISC - MISCELLANEOUS	NF - NON FRIABLE F - FRIABLE A - ASSUMED ASBESTOS CONTAINING	SF - SQUARE FEET LF - LINEAR FEET
CONDITION ND - NO DAMAGE D - DAMAGED SD - SIGNIFICANTLY DAMAGED		POTENTIAL FOR DISTURBANCE AND OVERALL RATING H - HIGH M - MODERATE L - LOW

TURN AROUND TIME:		RUSH		3-DAYS		24-HOURS		POSITIVE STOP PER HOMOGENEOUS AREA			
HOMO NO.	TSI MISC S	SAMPLE NO.	MATERIAL DESCRIPTION HOMOGENEOUS AREA DESCRIPTION	3-DAYS	24-HOURS	RUSH	3-DAYS	SAMPLE LOCATION	F/NF	QUANTITY	CONDITION
007	Misc	615-019	Black Cove Base J					black roof	NF		
		615-020	asphaltic 1st & 2nd					Asphalt			
		615-021	Floor					lab			
008	Misc	615-022	carpet & carpet adhesive					lab office	NF		
		615-023	Revised curb & 1st					office			
		615-024	Floor					entry			
009	Misc	615-025	Dry wall panel & panel					3rd Floor store room	NF	6 approx	D
		615-026	system 1st & 2nd Floor					2nd Fl. women Rm			
		615-027						2nd Fl. office			
		615-028						store room			
		615-029						lab office			
		615-030						custodian office			

ASBESTOS BULK SAMPLE WORKSHEET / CHAIN OF CUSTODY

DATE: 6-16-17
 PROJECT: Asbestos survey
 WORK AREA: 1522 Reunion Road
 RELINQUISHED BY: Jack Mankin

PROJECT NO.: 0523616
 PSI HYGIENIST: Jack Mankin
 RELINQUISHED TO: [Signature] 06/19

TSI - THERMAL SYSTEM INSULATION S - SURFACING MISC - MISCELLANEOUS	NF - NON FRIABLE F - FRIABLE A - ASSUMED ASBESTOS CONTAINING	SF - SQUARE FEET LF - LINEAR FEET	CONDITION ND - NO DAMAGE D - DAMAGED SD - SIGNIFICANTLY DAMAGED	POTENTIAL FOR DISTURBANCE AND OVERALL RATING H - HIGH M - MODERATE L - LOW
--	--	--------------------------------------	--	--

TURN AROUND TIME: 24 HOURS RUSH 3-DAYS POSITIVE STOP PER HOMOGENEOUS AREA

HOMO NO.	TSI MISC S	SAMPLE NO.	MATERIAL DESCRIPTION HOMOGENEOUS AREA DESCRIPTION	3-DAYS	24-HOURS	RUSH	SAMPLE LOCATION	F/NF	QUANTITY	CONDITION
010	TSI	615-032	TSI strength + roof +				2nd Floor Area	NF	200 LF	D
		615-033	Fitting 2. 1st & 2nd				Ry Low			
		615-034	Floor				Mech Rm			
011	MISC	615-035	Sink under coating				1st Floor.	NF	120 SF	ND
		615-036	1st Floor							
		615-037								
012	MISC	615-038	white wall part address				Men Rm	NF	800 SF	ND
		615-039	1st Floor Rest Rm				Men Rm			
		615-040					Women Rm			
013	MISC	615-041	Green wall paper + address				Lunch Room	NF	800 SF	TI
		615-042	1st Floor Office				Lunch Area			
		614-043					Men Rm Class Room			

APPENDIX B

APPLICABLE LICENSES AND CERTIFICATIONS





TEXAS DEPARTMENT OF STATE HEALTH SERVICES

PROFESSIONAL SERVICE INDUSTRIES INC

is certified to perform as a

Asbestos Consultant Agency

in the State of Texas within the purview of Texas Occupations Code, chapter 1954, so long as this license is not suspended or revoked and is renewed according to the rules adopted by the Texas Board of Health.

A handwritten signature in cursive script, appearing to read "David Lakey MD".

DAVID LAKEY, M.D.
COMMISSIONER OF HEALTH

License Number: 100047

Control Number: 96493

Expiration Date: 3/19/2014

(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE

**Texas Department of
State Health Services**

Asbestos Individual Consultant

JACK D MARSHALL

License No. 105646

Control No. 96251

Expiration Date: 1/11/2014



If found, please return, postage guaranteed
Department of State Health Services - MC2835
P.O. Box 149347
Austin, TX 78714-9347

It is a violation of the Department of State Health Services and a violation of Texas Penal Code Sec. 37.10 to submit any forged or fraudulent documents in order to obtain a license.

Es una violacion de los reglamentos del Departamento Estatal de Servicios de Salud y del Texas Penal Code Sec. 37.10 al someter cualquier tipo de documentos que esten alterados o falsificados para obtener una licencia.

A handwritten signature in black ink, appearing to read "David L. Lakey".

David L. Lakey, M.D.
Commissioner



**Texas Department of
State Health Services**

Asbestos Individual Consultant

RANDAL G WEBER

License No. 105600

Control No. 96264

Expiration Date: 1/29/2014



If found, please return, postage guaranteed.
Department of State Health Services - MC2835
P.O. Box 149347
Austin, TX 78714-9347

It is a violation of the Department of State Health Services and a violation of Texas Penal Code Sec. 37.10 to submit any forged or fraudulent documents in order to obtain a license.

Es una violacion de los reglamentos del Departamento Estatal de Servicios de Salud y del Texas Penal Code Sec. 37.10 al someter cualquier tipo de documentos que estan alterados o falsificados para obtener una licencia.

David L. Lakey, M.D.
Commissioner



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

J3 RESOURCES INC

is certified to perform as a

**Asbestos Laboratory
PCM, PLM, TEM**

in the State of Texas within the purview of Texas Occupations Code, chapter 1954, so long as this license is not suspended or revoked and is renewed according to the rules adopted by the Texas Board of Health.

A handwritten signature in cursive script that reads "David Lahey MD".

DAVID LAKEY, M.D.
COMMISSIONER OF HEALTH

License Number: 300273

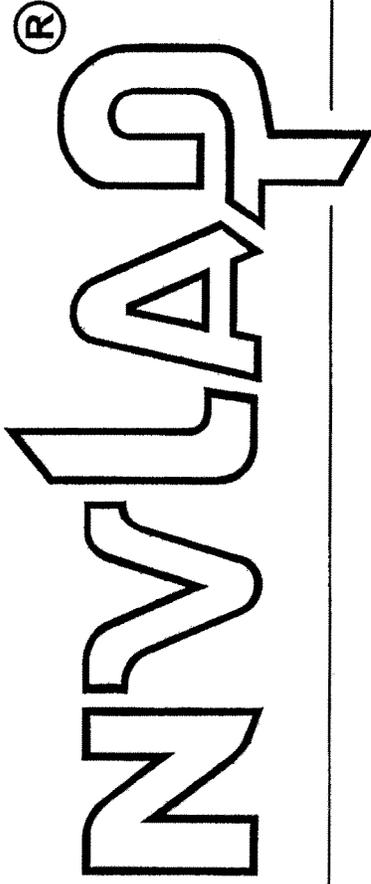
Control Number: 95782

Expiration Date: 3/15/2014

(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200525-0

J3 Resources, Inc.
Houston, TX

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

BULK ASBESTOS FIBER ANALYSIS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2012-04-01 through 2013-03-31

Effective dates



David F. Alderman

For the National Institute of Standards and Technology



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

J3 Resources, Inc.
6110 W 34th Street
Houston, TX 77092
Mr. Lee W. Poye, III
Phone: 713-290-0221 Fax: 713-290-0248
E-Mail: LPoye@J3Resources.com
URL: <http://www.J3Resources.com>

BULK ASBESTOS FIBER ANALYSIS (PLM)

NVLAP LAB CODE 200525-0

NVLAP Code Designation / Description

18/A01 EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2012-04-01 through 2013-03-31

Effective dates

David F. Alderman

For the National Institute of Standards and Technology

17 ASBESTOS AWARENESS

17.1 WHAT IS ASBESTOS?

Asbestos is a name given to a group of minerals that occur naturally as masses of long silky fibers. Asbestos is known for its unique properties of being resistant to abrasion, inert to acid and alkaline solutions, and stable at high temperatures. Because of these attributes, asbestos was widely used in construction and industry. Asbestos fibers are woven together or incorporated within other materials to create many products.

There are three main types of asbestos fibers:

1. **Chrysotile (White Asbestos):** Fine, silky, flexible white fibers (the most commonly used asbestos in the United States and Canada). Current evidence suggests that Chrysotile may be less hazardous than Amosite or Crocidolite.
2. **Amosite (Brown Asbestos):** Straight, brittle fibers that are light grey to pale brown (the most commonly used in thermal system insulation).
3. **Crocidolite (Blue Asbestos):** Straight blue fibers.

There are three other types of asbestos fibers: Anthophyllite, Tremolite, and Actinolite, which are found as contaminants in Asbestos Containing Materials (ACM).

17.2 WHAT IS THE PROBLEM WITH ASBESTOS?

People who work around or disturb asbestos are at risk for developing asbestos associated diseases. The occupational groups at the greatest risks for developing asbestos associated diseases include: janitors, maintenance personnel, construction workers, insulators, plumbers, mechanics, telephone workers, electrical workers, fire fighters, and asbestos abatement workers. People who work, live, or attend school in buildings containing asbestos products are also considered at risk for developing asbestos associated diseases. The U.S. Environmental Protection Agency (EPA) considers there is no known safe level of asbestos exposure. In the fall of 1990, the EPA developed a policy, contained in the "Green Book" ("Managing Asbestos in Place - A Building Owner's Guide to Operations and Maintenance for Asbestos Containing Materials"). This document summarized EPA's eleven years of experience with asbestos. EPA recommends that asbestos containing materials (ACM) in good condition can be maintained in place with very slight health risk to the building occupants.

17.3 HOW IS ASBESTOS EXPOSURE CREATED?

ACM that can be crumbled, pulverized, or reduced to powder by hand pressure is known as friable asbestos. When friable ACM is damaged or disturbed it releases fibers into the air. Airborne asbestos fibers are small, odorless, and tasteless. They range in size from 0.1 to 10 microns in length (a human hair is about 50 microns in diameter). Because asbestos fibers are small and light, they can be suspended in the air for long periods. People whose work brings them into contact with asbestos may inhale fibers. A worker's family may inhale asbestos fibers released by clothes that have been in contact with ACM. People who live or work near asbestos related operations might inhale asbestos fibers that have been released into the air by work activities.

The amount of asbestos a worker (anyone disturbing ACM) is exposed to will vary according to several factors:

1. the fiber concentration in the air;
2. the duration of exposure;
3. the worker's breathing rate;
4. the weather conditions; and
5. whether or not protective equipment is worn.

Asbestos has been so widely used in the United States that the entire population has been exposed to some degree. Air, beverages, drinking water, food, drugs, dental preparations, and a variety of consumer products all may contain small amounts of asbestos. In addition, asbestos fibers are released into the environment from outcrops of bedrock in the earth. The asbestos containing rocks release fibers as a result of wind, water and chemical erosion.

17.4 WHAT ARE THE DISEASES CAUSED BY ASBESTOS EXPOSURE?

Once inhaled, the small, inert asbestos fibers can easily penetrate the body's defenses. They are deposited and retained in the airways and tissues of the lungs. In the alveoli, the location of gas exchange, asbestos causes the development of scar tissue. This thickening of the alveoli wall reduces the amount of oxygen available to the body.

Because asbestos fibers remain in the body, each exposure increases the likelihood of developing one or more of the following diseases:

1. **Asbestosis:** A chronic lung ailment caused by the build up of scar tissue inside the lungs. Asbestosis can cause shortness of breath, permanent lung damage, and increases the risk of lung infections.
2. **Mesothelioma:** An asbestos caused cancer of the chest cavity lining or abdominal cavity.
3. **Other cancers:** Cancer of the lung, esophagus, stomach, colon, and pancreas.

Asbestos causes cancer. This is known from studies of actual groups of asbestos workers, not inferred from animal studies. The time it takes to develop lung cancer is often fifteen years or longer. The time frame for developing asbestosis and mesothelioma is even longer. Many studies have shown the combination of smoking and asbestos exposure to be particularly hazardous. Cigarette smokers exposed to asbestos, on the average are ten times more likely to develop lung cancer than non-smokers.

17.5 HOW HAS ASBESTOS BEEN USED IN THE U.S.?

Asbestos has been mined and used commercially in North America since 1880, but its use increased greatly during and after World War II. The building and construction industry used asbestos for strengthening cement and plastics. Asbestos was also used for heat insulation, fire proofing, and sound absorption. The ship building industry used asbestos to insulate steam pipes, boilers, hot water pipes, and nuclear reactors in ships. Because of its good friction and wear characteristics, asbestos is often used in brake shoes and clutch pads in cars, trucks, and airplanes. In 1979, the United States' consumption of asbestos amounted to 560,000 metric tons. By 1983, the annual total consumption had dropped to 217,000 tons. This reduction was due partially to regulatory actions, which banned the use of asbestos in clothing, wallboard-patching compounds, some construction materials, and in gas heaters.

17.6 WHERE CAN ASBESTOS BE FOUND?

Asbestos containing materials can be classified into one of three types: sprayed or trowelled-on material, Thermal System Insulation (TSI), or miscellaneous materials.

1. Sprayed or trowelled-on materials used on ceilings or walls: This surfacing material is found as a white, popcorn textured decorative, acoustical, and fire proofing cover in homes, buildings, and schools.
2. Thermal System Insulating: Asbestos is often found as plaster cement wrap around boilers, on water and steam pipe elbows, tees, fittings, and pipe runs. Asbestos is also found on duct systems, and as a cardboard type of material (called air cell) found on steam pipe runs.
3. Miscellaneous material: This includes all materials containing asbestos that were not included in the above groups. For example: floor tile, sheet rock, ceiling tiles, automotive friction products, rubber tile matting, rubber stair treading and risers, auditorium acoustical panels and sound proofing, gasket material, stage curtains, roofing materials, transite siding, caulking, cement pipe, kiln insulation, electrical panel insulation and wiring, fire brick, tar, and others. These suspect materials (materials which may contain asbestos) are found in either a friable (can be crushed or crumbled by hand pressure) or a non-friable state.

Common products that might have contained asbestos in the past, and conditions that may release fibers, include:

- STEAM PIPES, BOILERS, and FURNACE DUCTS insulated with an asbestos blanket or asbestos paper tape. These materials may release asbestos fibers if damaged, repaired, or removed improperly.
- RESILIENT FLOOR TILES (vinyl asbestos, asphalt, and rubber), the backing on VINYL SHEET FLOORING, and ADHESIVES used for installing floor tile. Sanding tiles can release fibers. So may scraping or sanding the backing of sheet flooring during removal.
- CEMENT SHEET, MILLBOARD, and PAPER used as insulation around furnaces and wood burning stoves. Repairing or removing appliances may release asbestos fibers. So may cutting, tearing, sanding, drilling, or sawing insulation.
- DOOR GASKETS in furnaces, wood stoves, and coal stoves. Worn seals can release asbestos fibers during use.
- SOUNDPROOFING OR DECORATIVE MATERIAL sprayed on walls and ceilings. Loose, crumbly, or water-damaged material may release fibers. So will sanding, drilling, or scraping the material.
- PATCHING AND JOINT COMPOUNDS for walls and ceilings, and TEXTURED PAINTS. Sanding, scraping, or drilling these surfaces may release asbestos.
- ASBESTOS CEMENT ROOFING, SHINGLES, and SIDING. These products are not likely to release asbestos fibers unless sawed, dilled, or cut.
- Also, other older household products such as FIREPROOF GLOVES.